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ECONOMIC HISTORY OF EUROPE

BY

MELVIN M. KNIGHT, PH.D.
Associate Professor of Economics in the University of California
Formerly Assistant Professor of History in Columbia University

HARRY ELMER BARNES, PH.D.
Professor of Historical Sociology in Smith College

FELIX FLÜGEL, PH.D.
Associate Professor of Economics in the University of California

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EDITOR'S INTRODUCTION

THE order in which the names of the three authors appear upon the title-page is the order in which, with a few exceptions, the chapters which they have contributed appear in this book. Part I, covering the ancient and mediæval periods, is the work of Dr. Knight. Published separately in 1926, it has already gained recognition as a work of sound scholarship and as an unusually skillful and lucid piece of historical writing. I still hold the opinion, which I expressed in my introduction to that separate volume, that "better than any other book in the English language it answers the particular questions about ancient and mediæval history that are most important for the student of the economic problems of the present day."

Dr. Knight's chapters on the economic history of Europe in ancient and mediæval times were written in the first instance, however, with a view to their making part of the present volume, and precisely the same qualities which make them helpful to the student of present-day problems also make them an illuminating preface to the chapters which follow them.

The economic history of Europe in modern times is both the history of the agriculture, industry, and commerce of a continent over a period of five centuries and the history of a series of changes in economic organization which have been dominant factors in making the modern world what it is. The authors have given due weight to both of these two aspects of their subject. The history which they have written is — as history must be — an account of sequences of events. But it is also an account of changing forms of economic activity, of alterations of the economic structure of society, and of the emerging of new economic problems.

The most serious difficulty encountered in compressing an account of the economic history of modern Europe into a

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book of moderate compass is that of deciding just how far to go in defining and stressing the dominant characteristics of the momentous changes of the period, and how far to make room for differences, exceptions, and complexities in general. On the one hand, an understanding of modern economic history is so important for the understanding of the economic structure of modern society that there is a temptation to make it appear simpler than it really is. On the other hand, the materials are so rich and their variety and interest so great that there is the danger that the narrative will be loaded down with what, for the purposes of a general view, is irrelevant detail. In order to secure unity in respect of the degree of emphasis put upon broad and general views and upon emendations and qualifications of such views, the first drafts of the different chapters of this book were subjected to careful revision. This task was entrusted to Dr. Knight, who also contributed several chapters, but the editor accepts a full share of responsibility for the general character of the changes that have been made.

Taking the book as a whole, however, I am confident that the student will get from it, not only an adequate knowledge of important historical facts, but also a better general view of the economic development of Europe than he will find elsewhere between two covers.

ALLYN A. YOUNG

PREFACE

Economic history is one of the fields in which the number of specialists is relatively small as compared with the mass of students finally reached by the results in one way or another. One effect of this is that there tends to be a considerable lag in the spread of accepted views, which often become commonplace in a few universities stressing this branch of economics before they have been circulated in any simple and generally available form. There is nothing disheartening about such a situation, as the vitality and progress of any study can be measured largely by the swiftness with which introductory manuals get out of date. So many years have elapsed since a general survey of European economic history for mature readers has been attempted that a new one should answer a real need. At least so it seemed to the authors.

In getting an introduction to a field of this length and breadth into a single volume, the main problem and the perennial difficulty may be stated as compression without distortion. The passage of time brings with it the appearance of new materials. Some of these supersede older ones, introduce new subjects, or change the emphasis upon others. A manual which is carefully worked out will contain some innovations in arrangement, to meet the requirements of these normal shifts in interest as well as to achieve the necessary economy of space. This is about as far as it can properly deviate from the beaten paths. The embarrassment of riches is so great, and so much good, well-authenticated material must be excluded, that it is hardly permissible to introduce any radically new "philosophy" of the subject, even in matters of detail. Three authors, working more or less separately, could not possibly produce a general manual except on the understanding that no attempt should be made to found anything like a new school of opinion. No one of the

three here involved wants to resurrect the view of a nineteenth-century group of German economists that history can entirely replace other introductions to that subject. History must be content to coöperate with the other tools of the economist, leaving to each the tasks for which it is best fitted.

The two courses from which this book got its inception were given in the School of Commerce and Finance of the University of Utah and the Department of Economics in the University of California. Such principles of selection as have been followed, consciously or unconsciously, were formed under pressure of the interests of students of economics and business. All three of the authors classify themselves as students — two of them primarily of economics and economic history, the third of social history. We hardly know ourselves just how much we have been influenced by earlier courses and published materials. For example, either by direction or through its pupils, the School of Economic History at Harvard University has contributed something to the shaping of almost all the college courses on the subject in the United States for many years. Professor Gay's *List of References in Economics 2*, as the modest title reads, has been revised from time to time; but in all its forms it has furnished a skeleton of solid reading which no teacher can afford to ignore. In searching for a thread of continuity to follow in selecting the materials most useful in understanding the historical background, the student of contemporary economic phenomena is almost certain to hit upon the active business people of all ages as the most probable agents of change. This is only a convenient central idea, and there is nothing rigid about it. If we find money-changing and interest in northern Europe at the time of the mediæval Champagne fairs, we naturally ask whether the practices originated there or were brought in, and in either case by whom, why, and what was the result.

Once we become conscious of the main stream of commercial development, from the Near East to the Mediterranean

coast of Europe, and from there northward, we can never lose track of its expansion. The increasing territorial specialization which was so marked in the early modern age of exploration had been noticeable as far back as the crusading period. Spanish and Portuguese commerce in the great days was in close relationship to the old centers in Italy, the Low Countries and Germany. The rise of the Dutch and French was as solidly connected with the past. By the middle of the eighteenth century, England was approximately the equal of France or the Netherlands in commercial and financial organization. A quarter of a century ago, there was a general tendency to regard the Industrial Revolution as more exclusively English in its origins than is now believed to have been the case. Some scholars were puzzled for a time at the increasing mass of evidence that France, for example, was not "backward" relative to the British Isles in commercial or industrial organization about 1750.

This mystification was largely due to historical faults in the earlier accounts of the Industrial Revolution. Forgetting that industry and commerce are always closely linked, enthusiasts had attempted to treat the former altogether too much by itself. Tracing certain industrial innovations backward from the nineteenth century, they had narrowed down to a few mechanical inventions which seemed to them to be the seeds of a vast movement. This was highly dramatic, but it tended to obscure the facts that seeds have parents, and that they do not grow alike in all environments. It is now generally recognized that commerce lost its age-old domination over industry during about a century following 1750. Thus to write a purely industrial history of the Industrial Revolution would be to ignore the main stream of business life at the beginning, while merely to look forward along the course of commercial development might lead us to the opposite absurdity of denying that the term "Industrial Revolution" means anything at all. The ideal method of dealing with this period, as with any other, is to work from both ends, attempting to trace the fate of the factors con-

spicuous at the outset as well as the origins of those which appear later. This is one reason why contemporary history (if these two terms mean anything together) is usually so disappointing. In the case of the present, we do not have the "after period" as a check. Besides attacking the contemporary world from only one side, its would-be historian is also handicapped by the mass of events, among which some that now seem most obscure will turn out to be of lasting significance, while nine-tenths of the newspaper headliners of to-day will be completely forgotten in ten years. History is decidedly not at its best as a tool for short range work.

There is no safer general rule to follow in dealing compactly with a long period of time than to devote less and less space to the remoter events. As a practical method of selection, this means dropping out of our account of each situation most of what failed to survive in some significant form into the next. For all its obvious merits — and its necessity in a general manual — this falls short by a little of producing a complete and judicial account. For that purpose, it is clear that a great many failures would have to be listed alongside the successes in each case. This is the task of the monograph or special study. The general manual has not a twentieth of the space which would be required. Any writer of an introductory treatise who allows his readers to believe that it takes the place of monographs and other detailed works is a malefactor in the profession. We have attempted to encourage rather than to discourage reading, and have left open every subject we have touched.

We hope it will not seem ungrateful to omit the long list of names of those who have read parts of this manuscript, or have taken the time to discuss orally the multitude of problems which have come up. Professor Austin P. Evans read and criticized the mediæval section, in first draft. Professor Wallace E. Caldwell of the University of North Carolina read an earlier draft of chapters of the ancient world, and any merits of the two here published must be attributed largely to his criticism. The most searching criticisms of all were made

by Professor Allyn A. Young, as the Editor of the series in which this volume appears. To a great many others, we apologize for the limitations of space, and to protect those mentioned we freely admit that their suggestions have not always been followed.

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ECONOMIC HISTORY OF EUROPE

PART I

TO THE END OF THE MIDDLE AGES

ECONOMIC HISTORY OF EUROPE

CHAPTER I

FOUNDATIONS OF EUROPEAN ECONOMIC LIFE

ECONOMIC HISTORY

The historical method of explaining problems consists of searching their past to find out the factors or forces which have determined the course of their development. This method is particularly applicable to human culture, which has accumulated very slowly and changed very little in any brief period. Even the innovations which have been made recently to meet new conditions are closely related to the inherited main body of our institutions, of which they are merely modifications. History is the account we have of the accumulation of ideas, institutions, tools, and goods.

There are many ideas which have little direct bearing on economic life. These the economic historian leaves to writers on thought and culture. He deals with art and political development only when they directly and obviously affect his main task, which is to trace the development of mankind's organization and technique for making a living. One must remember, however, that the phrase "a living" has not the same meaning for different individuals, times, and places. It varies with the kind and amount of goods a person has habitually consumed, seen others consume, or can imagine himself as consuming on the basis of what he has used and seen.

If no change took place, our institutions would always be working under the same kind of conditions which produced them, and history would be unnecessary. A sudden and

thorough change, if such a thing is imaginable, would likewise cut our connection with the past and make history useless. What actually occurs is that small and incomplete changes take place continually; and we face each morning with social machinery of an antiquity all the way from one day to thousands of years. The few innovations which we shall have time to make must harmonize with the old inherited structure if they are to work, and that structure can be understood only in terms of the partially vanished conditions which produced it. This limiting of what can be done in the present by what the past leaves us to do it with is thus a product of the "continuity of history."

What does or can happen depends upon what has happened. We cannot even think anything which has not at least a remote connection with what we already know or see. A primordial savage, though endowed with twice the inherent mental powers of an Edison, would never devise a phonograph or an electric light. There would be nothing in his environment to suggest it. Even a plow could never have been invented except in a society which already cultivated plants and had animals suitable for drawing the implement.

PROGRESS

Though the whole idea of progress has been pronounced naïve and vague by many philosophical writers in the past few years, the word is still very convenient to designate the development which takes place where the human mind is a factor, as distinguished from mere biological evolution. Man is the species which thinks and uses tools. His mind is intricate, versatile, capable of assembling more units, in a more complicated way, than others. It has a singular capacity for dealing with things exactly in terms of time and space — for taking situations apart and assembling new ones in imagination out of the parts of various others, even when none of them are materially present.

Animals, driven by events, learn something in the process. They tend to repeat any aimless or forced movement which

yields pleasure, and to avoid the ones which give pain. Man's imagination may at times keep him driving through painful experiences toward an entirely new goal, even though instinct pushes him in another direction. His experiments ultimately come to be something more than the aimless or forced trial-and-error gropings of animals. He is more likely to repeat his successes, and less likely to repeat his failures, because of a propensity for analyzing them. Because of superior means of communication with his fellows, and more of a tendency to imitate than is found in animals, a happy discovery by some individual is much more likely to be transmitted to the group, spread and preserved. Change in human societies thus tends to be much more rapid than in animal groups. Progress means literally "moving forward," the "forward" in actual history having been toward greater control over nature, increasing complication in organization, and multiplication of the number of people able to compel the earth to support them.

Human intelligence early manifested itself in the use of a *working* surplus, as distinguished from the stored surplus of the squirrel or colony of bees. The crude weapon or tool was probably the most primitive form of this active surplus or "capital." At first, it was not shaped by man's hand, but merely selected — the stout stick or the sharp stone — then used over and over. A monkey, one of the most intelligent of animals, will pick up a stick or a cocoanut for immediate use, but he soon discards it, unless a human brain has trained him otherwise. With the artificial shaping of tools or weapons to adapt them to specific needs, the human race was well launched upon its amazing career of conquest, accumulation and organization. The hand is a haft for innumerable specialized tools, some extending its reach, like the spear, throwing stick and bow, others concentrating its whole force and cunning on one detail. The brain provides it with a hundred tools, with which it is encumbered by only one at a time, thus multiplying it into a hundred specialized hands.

Language has been one of the most important of human

devices. It might be called a tool for multiplying the efficiency and size of organizations. Man's peculiar judgments about likeness and unlikeness, relations in time and space and the like, got reduced to words. Instead of the animal's mere trumpet call which served as the cue for instinctive flight or attack, sounds and signs came to convey details about how these movements (or others) were to be carried out in time and space. An entirely new kind of concerted action thus became possible. It was not until *written* records were devised — which was only yesterday in the enormously long history of mankind — that language produced the ripe fruits of human organization, and what we call *civilized* associations appeared. This apparently occurred first in western Asia or the Nile Valley. Before it was possible, weapons and tools had also to be developed, some of man's worst enemies subdued or exterminated, and animals and plants domesticated. "Civil-ized" suggests political organization into states, but a state rests upon a definite amount of economic machinery, including the transport and exchange of products and a taxation system.

MAN AND NATURE

To get a clear picture of the relation of this new thinking, tool-using species to the rest of nature, we must turn to a landscape where no human intelligence has yet interfered. Here the possible number of each living form is limited by food supply and competition with rival species. There will be as many big trees as can secure the kind of soil and amount of sunshine they require and can escape their enemies, such as parasites which feed upon their tissues. Smaller trees and plants will struggle for the remaining sunshine and fertility, some avoiding animal enemies better than others by protective devices, such as their bitter taste, thorns and so forth. We will find as many mice, say, as can escape the hawks, and as many hawks as can find mice to live on. The number of any animal species will be limited from above by those which prey upon it, and from below by the numbers of other animal or plant forms upon which it lives. One will get its food and

escape its enemies by force, another by fleetness, a third by cunning, and a fourth by sheer insignificance. The result is a fairly precise balance of numbers.

It was upon such a scene that man entered, and completely upset the previous balance of species. How? We must wipe out of our minds for the moment what civilized man would do under the circumstances, with ages of accumulated experience behind him. At first, he was pitted against practically every other living thing. He fought those animals which threatened to destroy him, and killed rather indiscriminately what living things he needed for food. From this it was only a step to killing off the other enemies of the plants and animals he wanted for himself.

In this cunning and versatile human brain, the basic idea of economy gradually took shape. Instead of the haphazard destruction of animals and plants, even for food, it was clearly better to protect some. How much better it would be to *tame* his food supply than to take chances on finding it wild, in competition with its various other enemies!

We have little more than suggestive myths and the evident logic of the situations to tell us how animals and plants came to be domesticated in the first place. The only way early man had of storing animal or plant food for any length of time was by keeping it alive. Live things in captivity have a way of multiplying which must have attracted attention and provoked thought. At any rate, few societies have been recorded, however detached or primitive, which depended entirely upon collection or appropriation direct from nature. The steppe or plains peoples of Asia learned to supplement their hunting with herds. In North America there were no animals particularly well adapted to herding, but plants like maize existed which invited domestication, so the natives eked out their hunting and fishing by cultivating these.

Whether herding or hoe-culture came first was chiefly a matter of geography. Plant cultivation requires a more settled and stable society, since growing crops cannot be moved even under pressure of danger from hostile tribes. On the

other hand, there are wide stretches of the earth where climate and soil are unfavorable to agriculture but suitable for a rather elaborate pastoral civilization. Finally, some fishing peoples, like those about the Bering Straits, have succeeded in developing a decidedly higher type of social order than most herding or hoe-culture groups. Thus the oft-repeated attempt to arrange "economic stages," beginning with collection or direct appropriation, followed in sequence by herding and hoe-culture, is sociological rather than historical and chronological, and suffers from the gross defect of ignoring geographical factors.

The important thing in the domestication of both animals and plants is that they added to man's tools and weapons an active, *producing surplus*. A stock for breeding was held intact as far as possible, and only the number in *excess* of this consumed. The species thus annexed to human society now grew where they could be controlled and gathered at will. In a very definite sense they became the allies of man — associate members of human society. They could be protected against their pest or weed enemies, and those varieties selected whose bodies man most coveted. The human species had adopted the general rôle and policy of arbiter in the world. Man proceeded to make over the natural arrangement of fauna and flora to suit his taste by wielding a balance of power in the struggle between sheep and wolves, corn and thistles.

POWER

This much progress might have been made without resulting in the dense populations or the transformation of the earth's surface which we see about us. We need only note peoples like the North American Indians when the white men came, or the Kirgiz herders at about the same time, to assure ourselves of this. The landscapes were comparatively little changed from their primeval state, and supported extremely sparse populations as measured by modern European standards.

Man was long in realizing that his ability to plan in terms

of time and space is the real key to world conquest. He has gradually set limits to problems and concentrated his puny strength at strategic points. The time spent in preparing a pointed or edged weapon enables him to apply the force of his hand and arm to a space so narrow that flesh cannot resist it. Within the borders of a ten-acre field during a given year man cuts down, uproots and turns under all the "weeds" or enemies of wheat. Then he gives the wheat an advantage by getting the seeds in the ground artificially, so that they spring up and appropriate the sunshine and fertility, choking out their rivals. The next year it is easier. The natural fecundity of wheat has been guided into a channel where it works for man even while he is absent or asleep.

If he kills wolves only as they attack his sheep, he must continue to work against the fertility of the wolf tribe, which is no more than its other enemies may do. But man concentrates his energy for a *time* within a given *space*, exterminates the wolves and transforms the territory so that it is an unfavorable habitat for wolves. By looking ahead in time and concentrating effort in space, he has economized energy.

Routine physical labor becomes irksome? Man has used his head in order to avoid using his hands, as well as to increase the amount of goods for which he has an insatiable craving. Moreover, he definitely wants power — something at the center of his being seems to demand it. As soon as plant cultivation had been learned, it became possible to organize man-power in a new way. The captive was dangerous if supplied with hunting weapons, and could escape if sent out collecting things in their wild state. With only a hoe in his hands, he was relatively defenseless before the sharp weapons and discipline of his captors, and could thus be made useful without becoming dangerous. Then, too, hoe-culture is more settled and intensive than either hunting or herding — the captive had less chance to escape. Plant cultivation made a more intricate social discipline possible, and the directive power of one brain was enabled to lay out indefinitely more work than one pair of hands could accom-

plish. Larger and more elaborate social and economic organizations appeared.

While not denying the great importance of such devices as the spindle, loom, and boat, it is probably safe to hold that the most significant of the tools used by man has been the plow. The great, fairly stable empires of antiquity could hardly have appeared without the development of writing and the invention of the plow. It is safe to say that more change has been wrought in the world by man during the past six thousand years or so than in the whole incredibly vast period before writing and plowing. This is not due to any personal superiority of ours over the people in ages gone, but rather to our advantage in having their long experience to build on.

The plow is the symbol of a new and epoch-making idea in human history: the wide employment of non-human power. With the possible exceptions of fire and speech, its use marks the most momentous achievement of man down to the age of the machine. In itself it was simple enough — a lazy yet ambitious man's hoe, slightly altered so he could hitch a cow to it. Looking back now, however, we see an easily constructed, power-driven weapon which has captured a large fraction of the earth for man's plant allies and wrought devastation among their enemies. It made possible the support of tens of millions of additional human beings, together with the indispensable beasts for draft and food. Back in the dawn of written history or before, somewhere in the eastern Mediterranean region, it must have practically invented itself among people who already used hoes and had domesticated animals suitable for power. Its use marks the transition from primitive husbandry to agriculture proper. On the basis of this increased power, great civilizations arose in Babylonia and Egypt.

PRIMITIVE INVENTIONS

The point and edge for the weapon and tool are found in nature. It was only a step from picking up stones, already

more or less adapted for tools, to artificially shaping an edge or point with other stones. Finally, using fire to help in chipping, comparatively fine tools and weapons were produced. Fire also exists in nature. The peoples we are concerned with in this book produced it artificially by friction devices as far back as we can trace them.

The earliest clothing probably consisted of skins, methods of treating which were discovered very early. Those of small animals can be satisfactorily cured merely by chewing. Larger skins were scraped and dried, then softened by rubbing in grease, by wetting and twisting, or by various other means, some of them elaborate. Tanning with bark is a very ancient process in the Old World. Rawhide making is very simple in a hot, dry climate, the leather being stripped green and dried. Bone needles which have been found in prehistoric remains testify to the age of stitching. Nature supplied the thread in the form of animal cords and tendons.

Mat and basketry weaving were learned early, and very likely suggested the weaving of cloth. Walls of tropical houses are, even to-day, often composed of mats, or are woven of branches and switches. Grass served, as it still does in many places, for roofing material. In the colder regions, men dwelt in caves, or used skins to shut out the chill air. The art of plastering over a wall woven of branches is also primitive, but such wattled houses still exist in many parts of the world where timber is scarce. The prehistoric lake dwellings of Switzerland were frame structures. Where soft stone was available, it was used for building in very early times. The use of adobe and brick construction was also worked out by early men.

Most primitive peoples apparently discovered adhesives — glues and cements of various sorts. Vines are ropes ready-made, and twisting small ones together for greater strength and pliability was a process which almost invented itself, given the necessary time.

The domestication of animals and plants has been discussed in another connection. It might be added that wild

animals were very likely first tamed in a spirit of play or for company. Some were later used for hunting, while others were merely meat preserved on the hoof, which led to systematic breeding and herding proper. Pack animals appeared early — long before they were more thoroughly trained and hitched to the plow and cart. Emmer and wheat grow wild in the Near East, and were doubtless collected for food long before they were cultivated. Very likely grains were carelessly dropped around human dwellings, grew, and were found so convenient that their enemies were uprooted and seeding done deliberately.

The origins of pottery are lost in obscurity, but there is much to indicate that the sun-dried clay vessel was in use before the art of firing was discovered, possibly through the accident of one of the more primitive pots falling into the fire. Originally being formed by hand and rotated for greater symmetry and ease of construction, the process evolved various forms of the potter's wheel. The idea of the wheel and of mechanical, circular motion lies at the foundation of all modern industry. It was early applied to the spindle for spinning. The most primitive form of spinning seems to have been to rub or roll the fibers, much as a harness mender is sometimes seen to roll his wax-end by sliding his hand along his leg, with the thread between. A weight was required to prevent snarls, and this weight, turning with the thread, finally developed into the spindle. This, together with the distaff, was the device used for spinning up to about two centuries ago, and is still common in the so-called "backward" countries.

Cloth-weaving was only an obvious step removed from the grass mat, which, in turn, was an adaptation of the woven basket and the still cruder wall of interwoven uprights and switches used by savages to shut out wind, sun, or prying eyes. Switches or grass were replaced by wool or vegetable fibers, and cloth appeared. There is astonishingly little difference between the primitive loom and that in use two or three hundred years ago. The lengthwise or warp threads

were stretched between two parallel bars, one sometimes hanging below the other to give tension to the warp and prevent snarling. Every other warp thread (or every third one, etc., depending upon the pattern) would be pulled back to permit of drawing through the cross threads or woof. Very artistic designs were sometimes worked out.

Since boats were the standard means of long-distance transportation down to very recent times, it is interesting to note that they were rather highly developed too long ago to leave any reliable record of how they were first built. Rafts, made of logs or inflated animal skins, in all probability, preceded the building of frame boats and canoes. Such transportation may mean merely war, but in many cases it signified a considerable exchange of goods. Trade between primitive groups is, of course, fundamentally "foreign" in character. It could not take place unless each party specialized to some extent in manufacturing things for which its resources and skill specially fitted it.

The existence of early trade, with some group interdependence, raises the question of how such exchanges were carried out. The disadvantages of barter — the problem of getting dissimilar goods into the terms of each other — have been overcome as far back as we have any record by using certain standards, generally desired commodities (such as shells, beads, grain or cattle), as "money." Money is a sort of common denominator for goods. It is both a currency or medium of exchange, and a measure of value, standardizing and simplifying barter even where no actual money changes hands. Early man did not usually make it of metals, which were wanting, but used less desirable commodities which lacked the uniformity, divisibility, ease of recognition, steady but limited conditions of supply, etc., which make for an ideal monetary material.

The origins of metal-working are lost in antiquity. We know from excavations of tombs in Egypt that copper was mined and smelted more than four thousand years B.C. Bronze became a serious factor in industry not long after the

time, roughly six thousand years ago, we have chosen as the end of man's long primitive or apprenticeship period and the beginning of civilized society. Its wide use is a factor in progress worthy of placing alongside writing and plowing. Just why bronze predominated for more than a thousand years after both it and iron were known was not quite clear for a long time — its production involves a relatively more complicated process. There is iron ore in Nubia, to the south, but the early Egyptians apparently did not know it. They had some iron long before the smelting of ores was understood, but the supply which does not require such separation is nowhere very large. Ægean archæologists are now convinced that the bronze age, as distinguished from the copper, really began in the Ægean and eastern Mediterranean region and spread from this area, and the first bronze products may have been made from ore in which copper and a bronze-producing alloy was naturally present. Whatever the reason, tin or other alloys were mixed with copper to fabricate bronze implements and weapons many centuries before iron-smelting on a large scale appeared among the Hittites of Asia Minor about the thirteenth century B.C.

PROPERTY AND THE DIVISION OF LABOR

Kinship usually plays a much larger part in the life of primitive groups than it does with us. There often exists between the primitive family and the tribe a group known as the "sib." (The more familiar word "clan" is a rough equivalent.) Its kinship bonds are usually traced through either mother or father to the exclusion of the other. Even in groups which we can observe to-day in which name, inheritance and sib allegiance descend in the female line, the social status of women is often inferior to that of man. While it is never safe to assume that a condition obtaining among people still primitive applies to our own forbears in some remote period, anthropologists have generally abandoned the idea, once common, that the mother-sib inheritance (that is, in the female line) mentioned above is a vestige of a general

"stage" of social development in which women *ruled* society to the exclusion of men.

Some division of labor between the sexes always exists, but there is a conspicuous lack of uniformity among different groups in respect of this practice. There must be some compensation for the fact that the burden of reproduction falls almost entirely upon woman, and that among primitive peoples, with a high death rate, this burden is heavy. To her fall the activities which will least interfere with the bearing and nursing of children, or will be least obstructed by those functions. Just which further activities are assigned to women depends upon so many factors — such as the prominence of war, hunting, herding, trade, industry, or agriculture — that actual conditions defy the laying down of any general rules. Many other things besides economic life have entered into the division of labor between men and women, such as local beliefs, circumstances, tradition and history. In the cases where monotonous and menial tasks are assigned to women, it is desirable to clear up the misapprehension that this was unfair to them or a sign of degradation and inferiority. The idea of the ceremonial uselessness of women is not primitive, however. It appears in groups with enough surplus to enable men to display their wealth by possessing many women, or by maintaining such as they have in conspicuous luxury. The uncertainties of primitive life, and the necessity of keeping the men free and alert for fighting with man and beast, often justified such a division of labor, and even served to balance any feminine disabilities. If man's lot was less laborious than that of woman, it was also less secure.

Communism as a legal institution has often been read into primitive societies in cases where a closer study would have shown the joint ownership to be that of a kinship group. Suppose that the inhabitants of a village coincide exactly with a sib or clan of blood relations, jointly owning the arable and other lands. That particular village might seem communistic to the mind steeped in our legal notions, though the

real binding force is in fact blood relationship. Lowie [1] gives numerous examples to prove that something akin to private property is nearly always present, even in the groups which seem most communistic. Clothing, ornaments, tools, and weapons are particularly likely to belong to individuals or families. In some primitive communities every valuable tree has a private owner. Magical and religious, as well as economic elements enter into primitive ideas of ownership.

When we turn to land or immovable property, we find hunting grounds held by sibs and tribes, but in some of these cases such preserves are subdivided among families. In general, where land is scarce it is much more likely to be privately owned than where it is plentiful. For example, the Kirgiz peoples have private property in the scarce lands used for winter quarters, but not in the plentiful summer grazing lands. Even a piece of property invariably possessed and inherited *within* a single sib is not necessarily owned by the sib as such, but may belong to individual members — as among the Hopi Indians. The same tribe which has joint ownership of land often has an elaborate system of personal property in other types of holdings. In a word, institutions and relations founded on kinship are often mistaken for communism, and genuine communism among primitive people seems usually to be merely the mark of undeveloped property institutions and ideas. Flinders Petrie [2] suggests that "Trespassers will be prosecuted" is the most ancient of formulas, and that "the first condition for a hunting life is the reservation of rights over an area by the tribe, excluding other tribes." Even wild animals have their definite hunting grounds which they defend against all comers. According to this author, it is to protect such rights that tribes are organized.

We may now in a paragraph briefly summarize the contributions to economic history which may be traced to primitive society, or the stage of human development prior to that

[1] *Primitive Society*, 208–10. [2] *Social Life in Ancient Egypt*, 2–3.

period of history concerning which we have written records. The art of making fire, with all of its attendant results and powers, had been devised. Man had come to live in fixed abodes — caves, pile-dwellings in water and on land, and wattle-huts. He had devised those tools which were his chief aids in exploiting nature down to the mechanical era — the spindle and distaff, the loom, the crude tools of the primitive stone-chipper and the smith, the hoe, and in some cases, the plow, and various weapons to protect himself against man and beast. Most of the common domestic animals now known had already been rendered subservient to man, and agricultural operations on a fairly well-developed scale had appeared. The extractive industries had emerged in the form of the mining of flint, and copper and tin ore. The exchange of commodities had reached such a scale as to comprehend commercial relations between peoples separated by hundreds of miles. Private property was well defined, laws covering public and private affairs were an operative reality, even if they were customary and unwritten, and the foundations of public control through the State were well laid. Art, symbolic and realistic, had developed. Language must have been well advanced in order to maintain the complicated economic, social, and religious relations and systems which we know to have existed, even if actual writing had not yet been devised. In short, all the foundations of material culture and economic processes were in existence, and not until the Industrial Revolution of the eighteenth and nineteenth centuries were there as notable contributions to material culture and the economic institutions developing therefrom as those which primitive man had slowly and painfully fashioned during a hundred thousand years or more of effort through a trial-and-error technique. It is well to note also that this "primitive" society was already strikingly "modern" in a thousand intangible ways — for example, in its conceptions of group economic interests, its stern requirement of loyalty of members, and its instant alarm when venturesome individuals proposed sweeping or sudden changes.

METAL MONEY AND CIVILIZATION

Agriculture enabled the early inhabitants of Egypt and Mesopotamia to pass beyond the loose tribal organization and develop a sort of city-state. Grain is a generally exchangeable commodity. Capital in this form can be moved for a number of miles and centrally stored, even under primitive conditions. The early (nome) capitals of the Nile Delta and of Mesopotamia were about twenty miles apart on an average, which would necessitate a haul of about ten miles to each. "In this period," states Flinders Petrie, "the storage of corn was the only form of capital which could be used to pay for united action, and purposes which were beyond the powers of a village." A wider rule could not be established until metals "became common enough to be accumulated and used to pay for labour." Grain was too bulky, heavy and liable to wastage, to be sent long distances for taxes or other payments.

When Egypt was united, a little over five thousand years ago, it was on the basis of abundant copper for payments. For three thousand years, or down to the time of Alexander the Great, values continued to be expressed in terms of copper, though silver and gold were common by about 1500 B.C. Silver and gold coins did not come into general use until about 700 B.C., and the Romans actually had a bronze currency some four centuries later than this. In Egypt and Babylon, the copper used in exchanging products was made up into rings of convenient size. Weighing it must have been something of a handicap to business transactions, and it is not sufficiently portable for an ideal money metal. The concentration of power which coinage of precious metals makes possible was not completely realized until the time of Alexander the Great, in the fourth century B.C.

ECONOMIC LIFE IN THE EASTERN MEDITERRANEAN ABOUT 2000 B.C.

"Civilized" is rather a vague word which has been used here to designate groups of people organized into some kind

of states; familiar with writing, domesticated animals and plants, metal-working, and exchanges of goods on the basis of metal. Plowing was associated with these in the eastern Mediterranean region, but under some conditions highly organized civilizations have grown up without the plow — for example, among the Incas of Peru. Civilization, as thus rudely defined, had existed some fifteen hundred years in Egypt and the Tigris-Euphrates Valley at the date chosen above for a swift backward look.

A group of Minoan or Cretan peoples about the Ægean Sea — thus touching Europe on one side — had been civilized nearly as long. These early Ægean folk were partially destroyed, some of the remnant driven out, and fragments doubtless incorporated, by the Danubian Greeks who came into the region as barbarians after about 2000 B.C. and made themselves supreme during the following seven or eight hundred years. Hence we know comparatively little about the northern point of what might be called the civilized triangle of these early times (Egypt–Babylon–the Ægean). The Egyptians, Babylonians, and Minoans traded with one another and copied each other's wares, but remained distinctive in some respects, due, for one thing, to geographical differences. Some centuries of comparative barbarism followed the replacement of Minoans by Greeks. It is probable that the invasions "made an almost complete end of the Mycenean culture," and that later "fresh seeds of culture were imported by the Greeks from their Asiatic neighbors." [1] Western Europe lagged far behind the Near East, the influence of civilized economic life slowly exerting itself northwestward. The organization of European commerce and industry on the basis of leadership from the southeast was to continue until at least the thirteenth century A.D. Even the Roman Empire was no exception, its business organization

[1] Gardner, Percy: *A History of Ancient Coinage*, p. 27. He refers to Poulsen, *Frühgriechiesche Kunst*. Some other scholars, such as Arthur Evans, would attribute more importance to the direct influence of Minoan civilization on the Greeks. From the standpoint of western European economic history, the question is of little significance.

and leaders and many of its finest wares being drawn from the Near East.

By 2000 B.C., most of the basic inventions, discussed in a previous section, had been familiar for many centuries. The Egyptians had been writing a highly developed language upon a sort of paper (papyrus) with ink for well over a thousand years. The practical mathematics of counting and measuring were understood — for example, a calendar practically as accurate as ours had been in use since 4241 B.C. Domesticated grains and animals were even older, and the plow almost as old. Irrigation was practiced in both Egypt and Mesopotamia on a scale involving a high type of social organization.

Egyptian economic life rested on the fertility of the Nile Valley, and was largely determined by the phases of the river itself, with its yearly inundation. With the exception of the Delta at the Mediterranean, this valley is a mere ribbon of land, about seven hundred and fifty miles long and nowhere more than ten miles wide. There were three seasons in the Egyptian year: (1) *Growing* — which began with sowing in November, after the inundation had receded; (2) *House* — from the harvest, in our spring, to the beginning of the inundation, about the first of July; (3) *Inundation* — roughly from July to November.

Irrigation was carried on in September and October, to spread the Nile water over lands which would not otherwise be reached. Where the water could not be led to the land by gravity, it was raised by sweeps similar to many still in use in American wells in out-of-the-way places. A swinging pole was weighted on the short end to balance the bucket attached to the long end. Another device where the water was raised only a few feet was a flat bucket with a rope attached to each side. It was swung rhythmically by two men — one on each side of the ditch from which the water was taken — and turned over into the ditch above upon striking the edge of the dividing wall.

Seeding was done by hand, and cultivating by hoe and

plow. The sickles for reaping were mainly of wood, set with thin flakes of flint for teeth, which made a durable and effective cutting edge. In addition to wheat, emmer, and barley, many legumes and vegetables were produced. Among these were peas, beans, lentils, onions, leeks, garlic, cucumbers, melons, lettuce, radishes, and sesame. Besides the olive, which grew only in certain parts of Egypt, oil was taken from coleseed, linseed, and castor-berries. Flax was cultivated for linen-weaving as well as for linseed oil. Horses were not introduced until after 2000 B.C., and were never common, being used chiefly for military purposes and royal processions. The Egyptians used two varieties of oxen, the buffalo, the ass, the camel, the antelope, the reindeer, the ibex, and the sheep. Most of these had appeared by about 3500 B.C., and were greatly improved by 2000 B.C. For example, reliefs of that period show hornless cattle. Cranes and geese were raised, artificial incubators being employed. Fish were kept in ponds, both for food and to keep down mosquitoes. The dog and cat had been domesticated.

After harvest, threshing was done on floors with flails or by using stock to tramp out the grain, much as in the more backward countries to-day. There followed the "house" season of drought and terrific heat, when little could be done. Sometimes the soil developed cracks fifteen feet deep.

Besides watching the dykes to prevent damage to the fields, feeding the stock, and, later, some irrigation, the inundation season was used by the kings and great nobles for building the palaces, pyramid tombs, and other great public works which still claim our admiration. The high water made it possible to float the materials about, and there was plenty of labor to spare in this slack season. These enterprises carried on by large, highly organized groups must have had profound social effects, leading to increased size and cohesion of groups. Military expeditions at these times, when many people could be spared from agriculture, also added social integration as well as territory and booty.

Engineering works such as the pyramids, obelisks, colossi,

temples, palaces, and stone-dressed roads reached amazing size and perfection. The great Khufu (or Cheops) pyramid, erected nearly five thousand years ago (in the twenty-ninth century B.C.) was until recently the largest architectural work ever reared by man. From a base over an eighth of a mile square, it rises to a height just short of five hundred feet. Though the unevenness of the ground made it impossible to sight from one corner to another, the largest error in any side is less than one fourteen-thousandth of its length. This means watch-making precision in a colossal structure.

Over two million blocks of limestone were used, weighing on an average about two and a half tons, though some were as heavy as fifty tons or more. These great stones were quarried on the opposite side of the river and ferried across. Much larger ones are found in obelisks and in such works as the Colossi at Thebes. They were apparently blocked out with dolerite sledges and finished with finer tools of bronze or stone, lines and facing plates being used to get straight edges and flat surfaces. Jeweled saws and drills were employed, and the Egyptians even had a tube-drill for use with a grinding compound, on the principle that we have rediscovered in recent times. Rollers and levers, and even crude devices on the principle of the pulley-block, aided in moving the stone blocks. Easy slopes up to the pyramids were provided by building ramps or ways of brick, to be torn away after the structures were completed. The largest of the pyramids is supposed to have used a force of a hundred thousand workmen. Obelisks were ingeniously placed by building a long, sloping runway up to the base. The stone was drawn up this ramp butt first, until it was balanced above the foundation provided, half of it thrust out into the air, when it was simply tilted down into position.

The craft products of the Egyptians, to be seen in the larger museums, show artistic design and finished workmanship to a degree never excelled. Some of the royal linen is so fine that a microscope is required to distinguish it from silk. They dyed with many colors, mixed pigments to get exact

shades, and understood fixing with alum. There are fine specimens of autogenous gold soldering over five thousand years old. Copper wire and chains were made. The metal-work represented some of the finest craftsmanship of ancient Egypt. Petrie mentions a porphyry vase two feet in diameter, worked down to a thickness of a quarter of an inch. Pieces of furniture are graceful, light and well-braced. Wood was "trained" for a dozen years or more to form solid angle-pieces. The glazing and glass-work was exceptionally fine, though the art may not have been developed in Egypt, but imported from Syria. High competence was shown in leather-work. Egyptian papyrus was the original paper, and was so universally known that it very likely furnished the idea for the cheaper but inferior Chinese sort made from pulp, which came to Europe through the Arabs in mediæval times. The craftsmen were for the most part drawn from the free middle class, though in some cases slaves were taught the leading trades. The craftsmen worked on the estates of great nobles, in state and temple workshops, and independently in their own workshops. In the period before 2000 B.C. they usually sold their products directly to consumers, but there later developed a distinct merchant class which was well differentiated by the imperial period (1600 B.C.).

By 2000 B.C., the Egyptians had been carrying on a considerable foreign trade, for example with Crete, and also exploiting the copper mines of the Sinai Peninsula, across the Red Sea, for some fifteen hundred years. The three great divisions of this foreign trade were, in order, Nubia to the south, the Red Sea and Punt to the east, and the Mediterranean region, including Syria, to the north. Prehistoric vase paintings portray ships about a hundred feet long, and by 2000 B.C., vessels larger than those of Columbus were being built. A Suez canal, constructed about this time, followed a chain of lakes inland from the Red Sea and swung westward to one of the Nile mouths, which emptied into the Mediterranean. The site of Alexandria is supposed to have been a great port in early times, but it later decayed for some

reason — possibly it was too exposed to attack after the rise of other Mediterranean sea powers. Alexander the Great revived it, and it has remained a first-rate trade center ever since. The chief articles of import in Egyptian commerce were the tapestry and cloth from Syria, weapons, and chased vessels from Phœnicia, decorated vessels and damascened bronzes from the Ægean area, silver from Thrace, Asia Minor, and Spain, spices, cosmetics, and aromatic woods from the East, and gold and ostrich feathers from the South. The chief exports were wheat, scarabs, glazed and gold ware, and some linen cloth. Commerce was well protected by a large fleet which policed the Mediterranean, and by soldiers who guarded land trade routes far better than in the middle ages in Europe. Likewise, trade was thoroughly regulated by the State. Custom-houses were maintained at harbors and places of entry, and duties levied on all goods except those consigned to the Crown. The revenue thus produced was one of the more important sources of income to the imperial treasury.

While it is the stone structures which have survived, the Egyptians from the earliest times also built with brick and wood. Like the Greeks later, they preferred the colonnade construction to the arch, which they knew, however. There is at least one example dating from the thirtieth century B.C. Building stone was less plentiful in the Tigris-Euphrates country, with the result that structures were commonly made of brick and smaller than in Egypt. With this material, the arch is more practical, and was generally employed.

On the social side, Egyptian economic organization was so foreign to ours, in theory and practice, that any detailed discussion of it would raise too many controversies to be of much profit. At the heart of it lay the theory that the divine-right ruler was the lord or proprietor of the whole country. That is, all Egypt was his "farm," and all its people owed him any services which he might require, as the personification of the State. Within this limitation there were the great landed nobility and the priests; middle-class scribes,

soldiers, administrative officials, merchants, and technically "free" craftsmen; and also serfs, and slaves or workmen treated as actual property. The most numerous class was the agricultural serfs. Probably the most suggestive expression for the status of the bulk of the agricultural population would be "serfs of the State." The great manorial estates were the central feature of Egyptian socio-economic life. We shall have to deal with this system further on, as taken over and slightly modified by the Ptolemies (after the conquest by Alexander the Great) and later by the Romans, the course of whose imperial development was greatly influenced by it. Egypt stretched too narrowly far inland, and her economic life was too much stereotyped along agricultural lines by the seasonal rhythm of the Nile phases, to develop so intricate a commercial and industrial organization as that of Babylonia.

A very elaborate economic order is revealed by the Babylonian Code of Hammurabi, of the twenty-first century B.C. Property relations were carefully defined and regulated. No purchase could be made without witnesses or formal contract — the prescribed contract forms being quite similar to those current to-day. There were regulations concerning wages, the cost of houses, the rents to be charged for many kinds of property, such as boats, animals, tools, etc., and the rights of tenants and landlords. The importance of agriculture is reflected in the large space devoted to the boundaries of farms and to irrigation.

Concepts of property were similar to our own. There are elaborate forms for leases and deeds, rules about partnership agreements, wills and inheritance. Laws regulated the powers of principal and agent. Documents were sealed and witnessed. Promissory notes were given, interest rates being controlled by law. Besides commercial and industrial operations, many of the functions of modern banks were performed in the temples. Temple workshops employed scores of people — as many as a hundred and ninety in one recorded case. The textile and bronze industries were the most im-

portant types of manufacturing. In addition to these central shops, work was sometimes let out to individuals to be done at home, but under central control — a crude form of the "putting-out" or "domestic" system of early modern Europe. There are unmistakable evidences of an apprenticeship system in the crafts of Babylonia. Foreign trade, largely by donkey caravans, was carried on overland, notably with Syria and Egypt. The chief exports were woolen cloth, hides, grain, and bronze ware; the leading imports were cedar and metal ware from Phœnicia and Syria, and glazed ware and linen cloth from Egypt. As usual it was the export industries which tended to grow largest and most complicated as to organization, and to require the most expert financial direction. Woolen textiles formed the most important products of industry.

The economic life of the Tigris-Euphrates region tended to be less stereotyped by the seasonal phases of the rivers than was the case in Egypt. More sudden and erratic rises placed great emphasis on dams, irrigation and drainage. Babylon was less isolated geographically than Egypt, which affected both trade relations and military organization. Greater variety of raw materials and markets within reach threw more stress upon commerce, and necessitated a more intricate financial system. Assyria, later of great importance as an assimilator and disseminator of culture, and as an imperial organizer, was chiefly an agricultural state at this time, and of little importance in industry or commerce.

Within the rough civilized triangle with Egypt, Babylon, and the early Ægean peoples at its points lay Asia Minor, Syria, Phœnicia, and Palestine. Whatever economic relations existed with the groups in this intermediate region about 2000 B.C. were to be profoundly affected by later migrations which, among other things, overwhelmed the early Ægean peoples, brought down the Greeks as barbarians from the north, and planted the Jews in Palestine. Man's early achievements as a civilized species remained firmly rooted in the two great valleys — the Nile and the Tigris-Euphrates.

The notable contributions of the ancient Orient to later civilization have been admirably summarized by Professor Breasted:[1]

> When he [modern man] rises in the morning and clothes his body in *textile garments*, when he sits down to the breakfast table spread with spotless *linen*, set with vessels of *glazed pottery* and with drinking goblets of *glass*, when he puts forth his hand to any implement of *metal* on that table except aluminum, when he eats his morning *roll* or *cereal* and drinks his glass of *milk*, or perhaps eats his morning chop cut from the flesh of a *domesticated animal*, when he rolls downtown in a vehicle supported on *wheels*, when he enters his office building through a porticus supported on *columns*, when he sits down at his desk, spreads out a sheet of *paper*, grasps his *pen*, dips it in *ink*, puts a *date* at the head of the sheet, writes a *check* or a *promissory note*, or dictates a *lease* or a *contract* to his secretary, when he looks at his watch with the *sixty-fold division* of the circle on its face, in all these and in an infinite number of other commonplaces of life — things without which modern life could not go on for a single hour, the average man of to-day is using items of an inheritance which began to pass across the eastern Mediterranean from the Orient when Europe was discovered by civilization five thousand years ago.

THE SPREAD OF CIVILIZATION INTO EUROPE

During the two thousand years preceding the opening of the Christian era, this higher type of social order spread northward and westward, establishing itself firmly in the entire Mediterranean region, western as well as eastern. This meant the inclusion of the entire Balkan Peninsula, Italy, Spain, and the southern fringe of the European mainland, connecting the three. Though Gaul and Britain were invaded before the opening of our era, only the southern part of Gaul, along the Mediterranean, had as yet been organized to any great extent.

These two millenniums were greatly to develop civilized economic life, as well as to give it a firm foothold on a new continent. It may be well to mention some of these changes

[1] "The New Past," *The University Record*, Chicago, 1920, vol. VI, p. 245.

before taking them up in detail. First, there was a great expansion westward of the area reached by Near-Eastern commerce. This was accompanied by colonization, especially that of Phœnicians and Greeks. The Etruscans also did a great deal toward transmitting Oriental civilization to Italy. The Greeks were newcomers in the eastern Mediterranean. They were more like the Europeans to the north and west of them than were any of the other colonizers or traders in the Mediterranean. In a sense, they Europeanized civilization, making it more comprehensible and palatable to the western peoples. During the last third of this two-thousand-year period, the use of coined money became general, with effects upon economic life and imperial administration difficult to overestimate. Finally, the type of state organization and accompanying fiscal system so familiar to us in the Roman Empire went through its experimental stages under the Assyrians and Persians, and reached its maturity in the states following Alexander's conquests. From these it was borrowed by the Romans at the end of the period.

TRADE EXPANSION AND COLONIZATION

Egyptian commerce enjoyed a sort of golden age about the fifteenth century B.C. This was linked up with a period of great prosperity in the Ægean, where it proved to be a veritable swan-song of Minoan civilization. Its territories were in complete possession of the rude Greek invaders by about 1200 B.C. The Minoan break-up, and the eclipse of the empire in Egypt about the same time, left Phœnicia the great colonizing and commercial power — the Greeks being practically barbarians for some centuries.

Phœnicia was a narrow strip of coast, geographically a unit with the Syrian hinterland and Palestine. The Phœnicians were related to the Arameans or early Syrians, and also to the Hebrews, who arrived in the region somewhat later. All of these, and also the Hittites of Asia Minor, were greatly influenced by Egypt, which dominated them for long periods. Sidon and Tyre were the most important of the Phœnician

towns. Byblus, which exported papyrus to the Greeks, supplied the Greek word *biblos* for this paper (hence for roll or "book"). Thus our English words "Bible" and "bibliography" are derived from a Phœnician place name, which got attached to a product through commerce in it.

The seaports of this coast were well situated for trade with Egypt, Asia Minor, and Europe. They also carried on a considerable commerce with the Tigris-Euphrates Valley, largely through the Arameans or Syrians, who were the great traders and civilizing agency in western Asia from 2500 to 500 B.C. Phœnician ships sailed into the Black Sea to get Baltic amber, which was carried down the rivers of what is now Russia, and also for iron from the Hittite mines in what is now Armenia. The Hittites of Asia Minor had begun smelting iron about 1300 B.C. The Phœnicians mined silver and some iron in Spain, and brought in cargoes of British tin — possibly obtained in trade from the Celts of Gaul instead of by sailing direct to Britain, as was formerly supposed. Purple dye from the shellfish *murex* was a leading industrial product. Metal goods, cloth and glassware were also manufactured. As to extractive industries, their agricultural resources were slender, but the famous cedar timber of Lebanon was greatly prized by the Egyptians, Babylonians, Jews, and others.

Besides their industries and their far-flung commerce, the Phœnicians performed a great work in the civilizing of Europe by colonization. There were probably many of their colonies in the Ægean by 1500 B.C., while they were still under Egyptian rule. Independence was gained some two hundred years later, when the Hittites were at the height of their power and Phœnicia had the perilous advantage of lying between them and the Egyptians. Phœnician settlements were made in Malta, Sicily, Sardinia, and as far west as Gades (Cadiz) in Spain, on the Atlantic coast beyond the Straits of Gibraltar. Carthage was the greatest of all. She was destined to outlive the mother cities and to dot the western Mediterranean region with her own colonies.

By about 1000 B.C., the Etruscans had settled in Italy, north of the later site of Rome. They brought the civilization of the near Orient with them, and traded extensively with this highly commercialized region. Their exact origin is uncertain, but it is thought probable that they came from somewhere in Asia Minor, where new invasions had been taking place. The Hittite Empire had disintegrated. Greeks were appropriating the Asiatic coast of the Ægean, and the Lydian State was probably already forming. As the Greeks became civilized, the commercial and colonial expansion westward and northward gradually fell into their hands. The fact that they were themselves aliens to this oriental culture, and never completely submitted to it, makes it necessary to deal with their activities as a new phase. This does not mean that there was a sudden or visible change in the nature of the expansion — at first, their activities were a minor factor in the situation.

THE RISE OF THE GREEK CITY-STATES

The first Greeks in the Ægean region appear to have arrived about 2000 B.C. Within seven or eight centuries, they had succeeded in displacing the Minoan-Cretan groups and had come into contact with the Phœnician, who had been trading and colonizing along these northern shores for some time. If there were no other evidence, a gradual decay of Minoan civilization would be apparent from these Greek and Phœnician encroachments.

It is impossible to fix even an approximate date at which the rise of the Greeks ceased to be a barbarian invasion and became the expansion of a civilized people. They were in scattered groups, doubtless partially due to their earlier institutions, but also in part to the nature of the Ægean and Balkan region, which is minutely divided into islands, peninsulas, and valleys by its mountain ranges and bodies of water. Even after their triumph over their Minoan predecessors, they remain for us an obscure factor in the general history of the Near East for centuries. The Phœnicians

taught them to write about 900 B.C., but writing was little more than an aid to commerce for a long time afterward. With the Hittite smelters next door, the Greeks had known the use of iron even in Homeric times. By the eighth century B.C., Greek ships were being built on the Phœnician model. Coined money came into use not long afterward. The use of precious metals by weight in business transactions had already been borrowed from inner Asia Minor, the Babylonian *mina* or pound being the unit.

Coinage is commonly supposed to have been introduced from Lydia, though some authorities think it originated with the Greeks of Asia Minor. The advantage of the coin was that it did not have to be weighed, being stamped to indicate that the Government guaranteed its value. Gold, silver, and electrum (natural alloy of the first two) were used, with a ratio between gold and silver of thirteen and a third to one in Asia — slightly higher in Greece and lower in Egypt. Electrum was apparently thought to be a separate metal, reckoned in Asia as worth ten times as much as silver and three fourths as much as gold. Sometimes the actual proportion of metals in coins which have been dug up was far from three to one. This would in no way affect the usefulness of electrum for coinage, of course, as long as its composition was not known and it was not alloyed artificially. In Italy, Sparta, and some other backward regions, bronze and iron remained the standards of value for centuries after 700 B.C.

While government coinage systems were certainly a boon to trade, their immediate effects must not be over-dramatized. Gold and silver rings of fixed weight had been in use in Egypt and Asia for centuries before the earliest Lydian coins we know of. Being everywhere rounded, as Gardner remarks,[1] it was almost impossible to "sweat" these rings, so they practically served the purpose of gold coins. There is a reference in Genesis to a gold ring weighing half a shekel, given by Abraham's servant to Rebekah. The shekel was a

[1] *History of Ancient Coinage*, p. 22.

Babylonian weight, one sixtieth of their *mina* or pound. Phœnicia used a silver shekel. It was the gold shekel which the Homeric Greeks appear to have equated with their primitive measure of value, the ox. The Athenian *drachma* was the hundredth part of a mina of silver — roughly equivalent to the modern franc, lira, krone or drachma. The word originally meant "a handful" — that is, a handful of the little iron or copper pieces used by the common people. Gardner states that "it was the Æginetans, the peddlers of Greece, who first struck money in Europe," the invention being taken up by great commercial cities like Tyre and Sidon in Phœnicia much later. Contrary to a belief expressed by Aristotle and still widely current, coinage was far more necessary to the small dealer or peddler than to the great merchant or shipper, who exchanged large quantities of goods at a time.

Although the Greeks are most familiar to us as a European people, the earliest of their cities to achieve commercial importance appears to have been Miletus, on the Asiatic side. Other very early Greek towns along this coast were Smyrna, Colophon, and Phocea. Only a fringe of Asia Minor was held by the Greeks, the strong kingdom of Lydia, and later the great Persian Empire (about 530–330 B.C.), blocking the way inland.

It was as an Ægean commercial people that the Greeks first became a prominent factor in Near-Eastern life. When increasing population which their small islands and valleys could not accommodate forced them to colonize, they pushed northward or westward along the line of least resistance. The fact that they were not able to expand eastward into Asia until Alexander the Great had broken the Persian power was highly significant for European history. The geographical situation of these early Ægean Greeks was most fortunate. On the threshold of the Orient, they were in immediate contact with the oldest and most prosperous civilizations, but their free island homes made them secure from marauding nomads and armies, as well as from the paralyzing influence of oriental political despotism.

Miletus was a great seaport as early as 700 B.C. It founded scores of colonies on the shores of the Black Sea alone. The planting of a Corinthian colony at Syracuse, in Sicily, in the eighth century B.C., was a great early landmark in the Greek phase of westward expansion. Syracuse was to become a great power, defeating the Etruscans and narrowly missing the dominion of the western Mediterranean. Settlements of Greeks, as well as Phœnicians, Carthaginians, and Etruscans, were so scattered over the West that the Romans scarcely needed to originate anything, having a legion of schoolmasters at their very door. Rhodes should be mentioned as a trader and colonizer which remained important right through Roman times and beyond.

Finally, Athens is quite properly placed above older Greek communities in economic history, because of a successful contest with the Persian Empire during the fifth century B.C. Achieving a hegemony over many colonies planted by other Greek towns, and even over great mother cities such as Miletus and Ephesus, the Athenians founded a first-rate commercial empire which lasted for about a half-century. It was far more significant than its short duration would suggest. Her victory over Persia in the Ægean left Athens without a peer as a trading and naval power in those waters, and also in the Black and Mediterranean Seas. It was thus the Athenian defense which in a sense drew a line between Europe and Asia, giving the European peoples time to mature their own institutions and assume the initiative in the later fusion.

Persia continued a great power in spite of Athens, whose Greek and other enemies she subsidized, contributing in no small measure to the Athenian downfall in 404 B.C. The homeland of the Athenians was too small and too poor in economic resources for them to unite the whole Near East — and of course they made grave mistakes. They made Egypt practically useless to the Persians, who nominally held it, but were unable to conquer it for themselves. Their attempt to conquer Syracuse was a disastrous failure.

Finally, they lost their naval supremacy in a struggle with other Greeks, aided by the Persians. Athens could not support a large population without importing grain and raw materials, a situation which put her at the mercy of any naval power stronger than herself.

The want of political unity which was so large a factor in ruining the Greeks was associated with some of the very qualities which made them great economically. As mercenary soldiers, they played a great rôle in Near-Eastern imperial politics and military intrigues to the end. Psamtik won the Egyptian kingdom with their aid, settling many of them at Naucratis and Daphnai in the Delta about 664 B.C. Coming as adventurers, they remained to trade. They were ejected from Daphnai after a century, but Naucratis remained a great Greek commercial outpost. Besides dealing in grain and other Egyptian products, these shrewd foreigners learned to manufacture sham Egyptian scarabs and statuettes, which they exported northward — much as their modern descendants, together with Germans and others, have filled the Bazaar at Constantinople with imitation oriental goods. Greek mercenaries were the nucleus of the Persian army clear up to the time when Alexander of Macedon overthrew it with other Greeks. Enterprising individualists, they fought with all the armies, traded everywhere, and yet remained Greeks, clinging to their traditions and their affection for the home city. In wars, they cropped up like the modern Irish, in trade like the Jews and in colonization like the English. Their city life at home was unique.

Commerce was the only way in which the Greek city could grow great. It lacked the great agricultural foundation of eastern empires like Egypt, Babylon, Assyria, or Persia. Its commerce could be maintained only by backing it up with industry. Athens was fairly typical. With a population beyond what her natural resources could support in comfort, she was obliged to import more tons than she exported. In order to keep this up, a ton of exports must be worth more on an average than a ton of imports. There

were two main economic means of arriving at this result. One was by developing craft skill, so that Athenian workmen added greatly to the value-for-weight of materials by making them up. The other was by furnishing transportation, especially by sea, a service which was paid for in the long run in materials. We must not lose sight of one non-economic method of balancing an economy — that is, the exaction of tribute in one form or another. It was widely employed in the ancient world, and extremely dangerous in the long run, leading to ruin if the force on which it rested should fail even for a brief period.

The Greek city-state was economically strong to the extent that its prosperity rested on the recognized value of the goods and services which it furnished. By "value" is meant simply acceptability — the quality in a thing or service which makes people willing to exchange others for it. Economic stability could not be entirely separated from political and military strength, however, in a situation where such powerful enemies as Persia lurked. The larger Greek units which were actually formed — the Athenian Empire being the outstanding one — suffered from the fatal weakness that they consisted of commercial places which were rivals for the Ægean trade and resented the elevation of any one of them to superior political authority. Whether in Greek leagues or in the Persian Empire, the Greek city tended to place commercial monopoly for itself above any vague feeling about Greek solidarity. No Persian city resisted Alexander's Greek coalition more vigorously than did Greek Miletus, which saw only menace to its trading privileges.

ATHENIAN INDUSTRY

The great extractive industry, agriculture, was not favored by Greek soil conditions as in Egypt or Mesopotamia, and there was no Nile automatically to look after the maintenance of fertility. Early in their history, the Greeks had been obliged to fertilize their fields or have recourse to a fallow year — that is, letting a field lie idle to recuperate.

It was the fallow year, rather than artificial fertilization, which was generally adopted. At first, the increase in population had forced the Greeks to colonize. The colony would trade with its mother city, enabling the latter to develop industries. Once these handicrafts got well established, and a foreign trade in their products had been built up, colonization was checked. What population Greek agriculture would not support could now gain a living at home by turning out wares to be traded for necessities and raw materials. Such foreign trade itself occupied many hands, and if there was still excess of population, there were plenty of chances to hire out as mercenaries to various eastern princes or kings.

Olive oil and wine were the chief agricultural products for export. The soil of European Greece is not particularly well adapted for grain-growing. Torrential winter rains follow the long summer drought, carrying off quantities of the loose soil. Some of the slopes were used by the ancient Greeks as pasture land, especially for sheep and goats. Given a considerable commerce to make up for any grain shortage, it proved advantageous to devote much land to olive and vine culture. Labor in vineyards and olive groves is largely seasonal, and there were wanting the activities in connection with irrigation which tended to keep the Egyptian peasant employed the year round. In brief, nature in Greece did not furnish the setting for a ponderous but efficient despotism founded on agriculture, as in Egypt. Some grain was raised, of course, and also the familiar vegetables, fruits and animals for domestic consumption, in addition to the export crops.

Slave labor perhaps dominated the situation in agriculture, but it was not a particularly exacting slavery. The relatively small holdings, the need for extra free labor at harvest times, and the absence of anything like the Egyptian theory of a divinely chosen ruler's proprietorship over country and people were factors making for a certain freedom from arbitrary restraint, even on the part of those technically slaves. Moreover, because of the nature of the work, slavery

in its more brutal forms can hardly exist in societies where city life, commerce, and industry play a large part. Only in the silver mines was there any atrocious form of slavery in ancient Greece.

Greek manufacturing industry was carried on both in households and in central workshops, most of them small. Twenty workmen in a place was considered a fairly large group. Work was done almost entirely by hand. In visualizing the shops, we must think away all such appliances as motors, lathes, shafting, automatic machinery such as looms, or even simple geared machines like the modern breast-drill. Asiatic and African slaves were too easy to procure for the good of either manufacturing or agriculture. The Greek citizen, thus too easily freed from hard, dirty work, tended to be contemptuous of mechanical invention, or devoid of interest in the mechanic arts. It is questionable if any substantial advance in industrial processes and tools was made by either Greeks or Romans. Hands were all too plentiful, and there was thus no incentive to develop power machinery. Craft processes were often minutely subdivided. Xenophon mentions such a subdivision of shoemaking into cutting and sewing, and the making of men's and women's shoes, by different people. The turning, firing, and decoration of pottery were separate operations, performed by specialists.

Slaves were often skilled craftsmen working side by side with freemen for the same wages, turning out objects whose artistic merits could hardly be equaled to-day. Great sculptures like those of the Athenian "Golden Age" were wrought largely by men who were actually or practically craftsmen. A man's craft was literally his "art." A large number of craftsmen, both free and unfree, worked directly for the State on public buildings and works. There were two sides, of course, to the question of associating freemen and slaves at the same tasks. If it tended to render slavery singularly tolerable and efficient, it also blocked the growth of free craft organizations and the rise of an industrial class to the dignity and influence which it enjoys in modern states.

Slaves were constantly freed, and as freemen they often became proprietors of shops, with or without slaves of their own. The precariousness of the position of free workers in competition with slaves will be dealt with more fully later, in discussing the Roman economic order.

Since much of Athenian manufacturing activity was for custom trade, there was less than the modern need for public markets, the goods being taken by customers directly from the shops of the artisans who produced them. Such goods as were sold in the public markets were offered for sale in booths erected along certain streets. The Government rarely attempted to fix the prices of commodities, contenting itself with supervising the general conditions of sale. Obviously, such a system afforded opportunities for personal initiative far beyond the autocratic control of a Pharaoh.

COMMERCE

A swift survey of the routes and products of foreign trade is perhaps the best key to the economic life of the Greek city-state. We might divide this commerce roughly into eastern, southern, and western parts. Athens succeeded Miletus in the control of Ægean and Black Sea trade. Corinth and her colonies continued the most prominent in the western trade, shared also by the Chalcidians, whose colonies in Sicily were only less important than Corinthian Syracuse. It was Phocea, on the Asiatic side, which colonized Massilia, the modern Marseilles. The third important route extended southward past Rhodes, Cyprus, and Phœnicia to Egypt. It was shared by various city-states, including Athens, until after the fall of the Athenian Empire. After a brief period of Persian dominance, it then fell to Rhodes. This island had long been settled, but the city of Rhodes was founded about 408 B.C. It became the most important Greek commercial city almost immediately, and so continued into Roman times.

From the mouth of the Dnieper in the Black Sea and also from the Sea of Marmora came immense quantities of salt fish, which, next to bread, was the staple article of Athenian

diet. The bread itself was largely made from Scythian grain, imported from the plain north of the Black Sea. Some cattle were also raised by the Scythians for export. Oil, bronzes, and especially wine, were exported by the Athenians to pay for these products. The Scythians were extremely fond of wine, but could not produce it in their climate. Besides these staple exports, the Scythian tombs have yielded fine specimens of Athenian pottery, jewelry, and other art goods. Large numbers of slaves were also sent to Athens from Scythia. Other imports from the Black Sea were flax, hemp, timber, tar, and charcoal. Greece lacked wood, the forests of Bithynia in Asia Minor and the Danube valley supplying the deficiency.

The southern route was important on account of the Egyptian trade, and also for the goods which came in from Arabia, the Tigris-Euphrates region, and the East Indies. These came to the Greeks, before the time of Alexander the Great, chiefly through the Phœnicians. Among the products were included carpets and rugs, precious stones, silk, ivory, frankincense, and spices. To these, the Phœnicians added their own famous purple cloth, fragrant woods, and alabaster flasks of ointment. Copper and textiles were picked up en route in Cyprus, and Cyrene furnished wool. Egypt was one of the greatest sources of grain, and practically the only one of writing paper (papyrus). A very fine linen, made from the papyrus plant, was also exported. Ivory was forwarded from inner Africa, and the porcelain industry and trade continued to thrive, as in more ancient times.

The western Mediterranean trade furnished the Greeks with grain and dairy products from Sicily, wood from southern Italy, and some silver and gold from Spain, not to mention the varied goods from Gaul, through Massilia. These were paid for by the Greeks with their typical wares — especially wine, pottery, bronzes, silver ornaments, and various manufactured trinkets. The western Mediterranean produced most of its own oil, but figs, honey, and live stock were sometimes sent out by the Greeks.

Not all was sea trade. Greek coins and ornaments have been found as far north as Prussia, and a regular trade route ran from the Sea of Azov northeastward to the Ural Mountains, where gold was obtained. The Greek caravan trade with the east was small until the fall of Persia, but it was not entirely non-existent.

The amount of traffic was to be somewhat increased in the Hellenistic age, after Alexander the Great, and may have been somewhat greater still at the period of Rome's greatest power, but the peoples and methods remained substantially as in the fifth century B.C. Nothing could be more erroneous than to picture Athenian foreign commerce in terms of modern volume and technique. For the most part, it consisted in the activities of private and single voyaging adventurers who carried on a sort of peddling trade around the Mediterranean and adjacent seas. They bought and sold on a petty scale as they passed from port to port, ultimately returning to Athens with a cargo of grain or slaves. As in the case of industry, we get the impression that commerce was favorably affected by a certain freedom of enterprise, greater than that enjoyed by business people in the older oriental empires; but the superiority of Greek methods did not become fully apparent until Alexander suddenly applied them to the reorganization of the ancient East.

ECONOMIC ASPECTS OF THE FAILURE OF ATHENS

Athens might have surmounted the difficulties incident to insufficient resources in foodstuffs and raw materials, had it not been for other serious handicaps. Cunningham and others have suggested that the public improvements which constitute one of her chief claims to remembrance were unproductive in the economic sense. They must have been very costly in labor and materials for so small a state, and of course they used up rather than yielded revenues after they were finished. This factor is not very impressive, unless those who urge it can furnish strong evidence that the same energy might have sufficed to solve some graver economic

problems. If this was a mistake in economic policy, it is not the only one the Athenians made — plainly visible after the fact. For example, they often failed properly to equip or consistently to follow up their naval and military efforts, so that these became complete financial losses or worse.

Considering Athens' dependence upon her foreign trade, she was in a precarious position geographically. Control of the Black Sea was absolutely vital to her as a great state, and yet she held only the thinnest fringe of territory guarding the straits at Byzantium (later Constantinople), and no real approach by land to this vital point. Persia on the Asiatic side, or any European power which might arise opposite, could threaten the existence of Athens. Only her navy stood between her and economic ruin, unless she could conquer and organize more territory to the north and northeast.

Corinth, dominating the isthmus of that name, held the key to the western trade routes. The small ships of those days were dragged across this narrow neck of land to avoid the dangerous waters south of the Peloponnesus. To render this route really secure, it would have been necessary to dominate practically the whole of Greece. The southern route which tapped the supply of Egyptian and oriental goods could likewise be kept open only by sea power. Persia was a menace to both northern and southern routes, especially as long as there remained hostile or half-hostile Greek and Phœnician commercial towns for her to subsidize against Athens. The Persian Empire was moribund long before the fall of Athens; but if any other than an Athenian hand should overturn it, other cities at the end of the oriental trade routes would be much better situated to control eastern Mediterranean commerce. The ideal sites were the neighborhood of Antioch and the Nile Delta, where Alexandria appeared a little later. Byzantium could become a promising site for an imperial capital only after its European hinterland could be developed and populated.

As a matter of fact, no purely Greek group became strong enough to seize the opportunity for Near-Eastern empire

furnished by the disintegration of Persia. There were plenty of returned Greek mercenaries who discussed the possibility, but it remained for a king of half-barbarous Macedon to reach out for it.

THE EVOLUTION OF IMPERIAL ADMINISTRATION

While the maritime peoples on the border between Europe and Asia had been colonizing westward, developing commerce and city life on the basis of individual enterprise and money economy, and incidentally working out a new basis for local government, the ancient East had been maturing a contribution of its own. The economic unity of civilization had been destroyed when the Hittites, Phœnicians, and others had broken away from Egyptian domination. The disunity had been emphasized by the rise to commercial importance of the Lydians, and especially the Greeks. These two peoples were not absorbed by the new Assyrian Empire. which had swallowed up Syria, Phœnicia, Palestine, and Egypt by the seventh century B.C.

The maritime, commercial civilization of the Greeks and the fundamentally agricultural Assyrian social order developed in different ways, with vast consequences later on. The trade of the Assyrian was largely in the hands of Arameans of Syria whose culture centered at Damascus, and Aramaic rapidly became the language of commerce. A much larger land empire was now possible than in 2000 B.C. Horses and chariots had added to the mobility of armies and to the distances over which it was possible to exercise effective military control. More interest was taken in building road systems than formerly. Improvements in land transportation also simplified the economic problems of administering large areas. Iron weapons and armor, borrowed from the Hittites, made the Assyrian forces well-nigh invincible on land. The Assyrians went a long way toward realizing their ideal of an imperial military and administrative system with one man at the head — an idea which was to be expanded by the Persians, Macedonians, and Romans later.

Only a few generations after the collapse of Assyria, the Persian Empire (about 530–330 B.C.) arose in its place. The Persians were a northern people, like their Greek cousins, still close to their pastoral and agricultural traditions. Unlike the Greeks, they fell heirs to wide stretches of extremely fertile land, with an old, high civilization still substantially intact, and with a population which greatly outnumbered its conquerors. To the earlier Assyrian holdings they added Asia Minor and a considerable area in Europe, in the rear of where Constantinople now stands. In the east, the frontier of their empire reached India. Before the Persians lost their identity in this polyglot population, they succeeded in developing the Assyrian beginnings into an imperial organization which already foreshadowed the Roman one familiar to us.

The Persians built an elaborate system of military roads, and established a postal service. They reopened the old Egyptian canal at Suez, had the Asiatic coast explored eastward as far as India, and attempted to build up sea trade between the Indies and the Mediterranean. They were themselves warriors and farmers, not sailors, but they treated the Phœnicians and other conquered maritime peoples with great consideration, and thus assembled a Mediterranean fleet. Persia was the first state to set up an elaborate system of provincial governments or satrapies. Aramaic was made the official language in which government as well as private business was transacted in the western half of the Empire, including Egypt and the regions next to Europe. Coined money being general in the West, taxes were assessed and collected in terms of it, but coinage and money economy never took the same hold in the eastern or Persian part of the Empire. The Great King tried to keep a monopoly of gold coinage, but both the provincial governors and the coast cities of the West struck silver coins of their own. This fact is particularly significant because silver was the standard money metal in the West. When the Athenians wanted gold to adorn a statue or for other purposes, they bought it

by weight, like any other commodity, paying for it in silver coin.

Here we perceive an economic flaw in the Persian autocratic system, a rift which was widened rather than repaired as time went on. Autocracy has worked best in an economy based chiefly on agriculture. The western provinces and maritime cities had a language and a currency of their own, and they kept largely intact a town type of economic life which was in rather sharp contrast with Persia proper. As time passed, the Great King had more and more trouble in keeping his western satraps under control. Oftentimes they maintained so many Greek mercenaries that he found it expedient to bribe them or subsidize their enemies rather than to attempt to force them into submission. In 401 B.C., Xenophon marched ten thousand of these Greek adventurers safely out of the very heart of the Empire after the murder of a pretender to the throne whom they had been supporting. Persia's weakness stood revealed. Forty-one years later Philip came to the throne of the peasant Kingdom of Macedon, north of Greece. Gradually the idea came to him that if he could get control of Greece his military resources would be sufficient for an invasion of the Persian Empire.

Macedon was a farming country, more than self-supporting in grains, and had some good veins of gold-bearing ore. The language was related to Greek by common origin — somewhat as English is to Low German or Danish — though the Greeks could not understand it. Some Hellenization had taken place, especially through commerce and contact of the Macedonian upper classes with the Greeks. Philip welded together a peasant army, gathered a treasure, and quickly overran all Greece except Sparta. He himself was assassinated on the very day of the games which were to celebrate his departure, but his son, Alexander the Great (334–323 B.C.), rapidly conquered the whole Persian Empire.

ECONOMIC EFFECTS OF ALEXANDER'S CONQUESTS

It would be hard to imagine a sharper contrast than that

between the autonomous Greek trading town civilization and the bureaucratic oriental monarchy into which it was now thrust. Alexander's scheme of administration boldly attempted to make these unlike elements work together in a larger whole. Vestiges of the resulting clash of interests between country and town are still visible in modern European states. In Egypt and the East, private property was at the service of the State. Production was nationalized and socialized. Power was concentrated in the army and administrative staff, with a divine-right ruler at the center. The population at large was docile and lethargic, its social classes stereotyped. Agriculture dominated economic life, a country nobility helped the King run the government, and relationships were largely personal rather than pecuniary — that is, there were still many payments in service and in kind. Religion and the priesthood produced supernatural approval for the whole edifice. On the other hand, elective self-government prevailed in the typical Greek city-state. Private initiative in business was practically untrammeled, and private property was the cardinal principle of economic life. Money economy was so well established as to be commonplace, reducing relations to an impersonal basis. Even the slaves were largely paid in money. Greek economic life had been characterized by the size of the cities, and the number of manufactories whose output was destined for a widespread export trade. The amount of personal freedom enjoyed by the bulk of the Athenians — including the lowest classes — would not look very inviting to a twentieth-century American; yet it was very great compared with that of the Egyptians, for example, where social position and rights were largely in rigid terms of relationship to land. For instance, enrollment in the Athenian *demes* or local government units depended upon domicile rather than on occupation or ownership of land, and the soldiery consisted largely of free peasants.

Compromise and adjustment rather than fusion of these social opposites produced a texture of civilization which set

the stage for the political system which was to dominate European life. This inherited blend of institutions gave Imperial Rome both her strength and her weakness. Octavius' conquest of Egypt in 30 B.C. was followed within three years by the establishment of the Roman Empire, whose organization more and more resembled that inherited from the east as time went on.

Alexander threw the captured Persian hoard of precious metals into circulation, and put the coinage on a gold basis, with a central treasure of some two hundred tons — about $140,000,000. This is five times the famous modern German war-chest, and represented a colossal economic power in the ancient world.

New towns on the Greek model were established, from Egypt to India. This policy was followed up by the rulers who succeeded Alexander, long after the original political unity of his empire had been lost. The earlier stagnation of agricultural villages was largely broken up by their attachment to industrial and commercial cities and through the introduction of more coinage. The city-state itself was subtly changed by relationship to the larger imperial unit. On the maritime fringe of western Asia, already considerably commercialized and industrialized, there was less to change than in an agricultural country like Egypt.

In the newer and reconstructed cities, business and residential districts were commonly separated. Special terminal facilities for ships and caravan routes were provided. Attention was paid for the first time to sanitation. Capital and labor were invested in practical public works, such as water systems, lighthouses and docks. The narrower city patriotism of pre-imperial times was largely swallowed up, carrying with it much that was good along with the bad features. Greek city life had fallen upon evil days when Alexander came along, and if he changed it materially, he at least gave it a new lease of life, as the backbone of a new imperial enterprise.

Imperial administration in the conquered territories con-

tinued the oriental traditions built up by the Assyrians and Persians, borrowing practically nothing except increased economic efficiency from the Greeks. The conquerors inherited the great royal domains, the lesser noble estates and the city territories of Asia. In Egypt they fell heir to the Pharaonic system, Alexander having hastened to assume the traditional rôle of God-King and proprietor of the whole country. Neither he nor his successors in Egypt, the Ptolemies, made any serious attempt to introduce the Greek system of private landed property. Concessions were made at first to the Greek population which moved in. Some permanent leases of lands were made to those who improved them — especially of gardens, vineyards, and building sites. Only a limited amount of forced labor for the State was demanded until several generations of residence had somewhat orientalized the Greek immigrants. A large percentage of the land, in both Egypt and Asia, continued to belong to the State (or the ruler, as the personification of it).

The State itself was a conglomeration of Greek city-states, each superimposed over a region. Natural economy was practically superseded by money payments; even in agricultural regions where collection in kind could not be avoided, the government tax-collector was able to turn the produce into money. Greek tax-farming had been a private enterprise, but the Hellenistic (post-Alexandrian) tax-collector was a state official, responsible to the Government even with his private property, which could be sold to make up a deficit. The city had been a discordant and embarrassing element in the Persian Empire, but in both the Hellenistic States and the Roman Empire, it was knit into the administrative system as an essential part. That no real fusion of the European city-state with the oriental agricultural despotism occurred is shown by the sturdy growth of the former in the middle ages, whenever and wherever royal control weakened.

FROM HELLENISTIC EGYPT TO ROMAN EMPIRE

What is known as the Hellenistic age lasted about three centuries from the death of Alexander the Great in 323 B.C. His empire split up into three main parts: Egypt, the Seleucid Empire of Asia, and the Macedonian Empire in Europe. Besides these, there were various more or less shifting political units in Asia Minor, and a number of Greek city-states, some of them united in leagues. Rhodes was an independent island republic. The cities, both in and out of the empires, contributed the trade, industry, science, architecture, and intellectual life which the Roman Empire was to take over and transplant in new regions. Rome's original contribution to city life was to be very slight — it is probably safe to say that she dammed up the stream of scientific, artistic, and intellectual progress rather than fed it. Imperial theory, organization, and its relation to agriculture under Roman dominion followed with remarkable fidelity the system inherited from Ptolemaic Egypt.

Hellenistic city life is one of the high-water marks in history. Even imperial cities like Alexandria and Antioch largely escaped the stereotyping effects of increasing governmental control. Both before and after the Roman conquest, a stream of Indian and Arabian products, precious stones, tapestry, silks, perfumed woods, and cosmetics, came to Alexandria, to be exchanged for silver, wine, amber, metal wares, and cloth. Grain was shipped to the manufacturing and commercial towns of the eastern Mediterranean, and more and more to Puteoli on the Bay of Naples, for Roman consumption. The products of the known world, from Chinese silk to British tin, were piled up on the docks. Guarding the harbor mouth was the great lighthouse, three hundred and seventy feet high. Within view of that torch-bearing skyscraper went on commercial, intellectual, and scientific life never equaled in Rome nor even in western Europe until modern times.

Leaving aside the philosophies which occupied every educated mind while the religion and the political traditions

which were to dominate Europe were taking shape, and also the editing of classics which have been fundamental in our education, we find that our modern science began where Hellenistic science left off. Geographical expeditions, collecting data, extended the boundaries of the known world. Eratosthenes compiled an accurate geography, showing latitude and longitude. He also calculated the size of the earth with an error so slight that it makes Columbus' ideas, seventeen hundred years later, look crude and fantastic. Moreover, he anticipated Columbus by that many centuries in the belief that the Indies might be reached by sailing westward across the Atlantic. Aristarchus of Samos advanced proofs that the earth and other planets revolve around the sun, though he did not have the highly developed instruments to demonstrate it beyond dispute. Hipparchus charted the heavens and discovered the fact of the precession of the equinoxes. The geography of Columbus was derived from that of the Alexandrian, Claudius Ptolemy, a more or less garbled version of which was taught in the mediæval universities. The astronomy of Copernicus went still further back to Aristarchus, of the third century B.C.

Alexandria had a great museum, perhaps the nearest thing to a university in the ancient world. Scientific courses in architectural and other branches of engineering were conducted. In mathematics, Euclid brought geometry to such perfection that his textbook is still in use in European schools, and Diophantus was justly called the "Father of Algebra." Archimedes of Syracuse developed static mechanics and higher mathematics, though his mathematical work was lost sight of later. He also built remarkable machines on the principle of the lever and pulley, and calculated the specific gravity of a number of substances. Hero of Alexandria built a sort of steam engine in the second century B.C. It was a mere toy, but it converted steam pressure into rotary motion before the Christian era. Biology made notable progress, careful dissection being practiced. The Arabs carried the Hellenistic beginnings in scientific medicine over into me-

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diæval times, and it was on this foundation that our modern medical science has been erected. Alexandrian surgeons performed difficult operations, using mandragora as an anæsthetic. Even practical inventions made promising beginnings in the Hellenistic cities, but something in the political or social environment provided by the Roman Empire must have been inimical to this spirit — at any rate, it dried up. Steam and air pressure were used. Water-mills, washing-machines and automatic door-openers were among the contrivances. Levers, screws, and even gear-wheels were employed by such mechanical experimenters as Archimedes.

As in the Roman Empire, the upper classes in the Hellenistic cities were the absentee landlords of estates in the surrounding regions. Whether the Egyptian cultivator held his parcel of land from a great landlord whose lease was so long that it amounted practically to ownership, or worked the crown lands proper, he was practically a serf. His residence and implements were, in a restricted sense, his property, but he was obliged to cultivate the land as prescribed from above. and any of his goods could be sold for rent or taxes. The Government could eject a crown tenant at will, replacing him with another. Even his cattle were not his absolute property, since the State could requisition them. His crop was not his own until he had paid taxes and rents. Moreover, the State had a prior right to purchase at fixed prices so much of the remainder as it desired. This meant all the oil — a state monopoly — and perhaps all the flax, hemp, and wool also. Pasture, meadow, and timber were held to be government property, the tenant having a customary right to pasture a certain number of draft animals only. Peasants had to care for and cut timber for the Government as a part of their forced labor or *corvée* — a Greek term for an oriental institution.

Industry was likewise brought almost entirely under state control or supervision. Raw materials belonged to the Government, which controlled practically all sales. Oils, textiles, paper, mining, and quarrying are samples of enterprises

controlled or monopolized by the State. Compulsory labor was used in the crafts, as in agriculture. The traders were state agents, who sold at fixed prices for a percentage of the revenue. Within a few generations, the private trading practiced by the Greeks before they came to Egypt practically disappeared. Most of the Roman foreign trade was to be carried on by people from the eastern Mediterranean towns, and the methods remained those of the Hellenistic age. Many crafts, with the craftsmen who carried them on, were transplanted bodily from the Near East to Italy in Roman times, and other industries were in the Roman State simply because it had extended its frontiers eastward to include their homelands.

Naturally, there were thousands of public officials in such a system, as fully developed. Besides the organized administrative staff, more and more local people were forced to act as agents of the Government. At first only the lower officials were actually pressed into the service, but as time went on the higher social classes were also included. Wealthy men were particularly wanted, because responsible. They hated governmental tasks, which offered no rewards to the honest, but led to confiscation of goods in case of failure. In the end, a sort of "state socialism" emerged, as rigid as that under the Pharaohs or the Persians, and more intricate because of the Greek improvements in economic life. No social class was free to move without confiscation of property, and the propertyless man was a serf. When the serfs could bear no more, they fled to the swamps. In Egypt, the soil was so inexhaustibly productive, and the mass of the people was kept so poor, that the Government was always rich, even in the final period of Cleopatra.

The Roman imperial organization, and the course of its development and decay, are startlingly similar. The Romans found a land system practically identical with that of Egypt in Sicily, which they took over from the Syracusans and Carthaginians before 200 B.C. They simply transferred the tenants and cultivators from the Syracusan to the Roman

Government, as "*coloni* and peasants of the Roman people." Carthage and European Greece were conquered by 146 B.C. At Corinth and elsewhere, the Roman Government launched out upon a career as a Hellenistic landlord in the East. Carthage also had the familiar oriental type of economic order, which she had spread to Sardinia, Corsica, and Spain, as well as to western Sicily. During the first century B.C., western Asia, and finally Egypt, were conquered by the Romans. In 27 B.C., Rome, already proprietor of the most important parts of the Hellenistic world, accepted the long-established oriental tradition and became an empire with one person at its head.

The eastern Mediterranean lands were greatly benefited economically by being united, as they had been three centuries earlier; but this time it was the conquered who were the schoolmasters in commerce and industry. It was some three centuries before the orientalizing effects of this union of East and West upon an eastern basis were fully apparent. Moreover, the Romans had something of a start in this direction before their empire was founded. They were already exploiting African and Sicilian estates with slaves, using some floating free laborers at harvest time, and the free small farmers and laborers had begun to drift cityward as the oriental system spread. What had previously been a desultory practice of making conquered lands state property became a policy with the Empire, and the growth of what we may call the "crown domain" was to be a decisive factor in Roman history.

SUGGESTIONS FOR FURTHER READING

Note: The works marked with an asterisk (*) are recommended as sufficiently simple, clear, and reliable for collateral reading. All of the chapter references in this book are intended to be useful rather than exhaustive, though sometimes a great book of unusual difficulty is included. The first section, on Economic Origins, being merely introductory, and its material largely borrowed from other than historical and economic fields, only simple readings are given.

I. Economic Origins.

*Breasted, J. H. "The Origins of Civilization," *Scientific Monthly*, vols. 9, 10. A series of articles covering primitive life and also the ancient Near East.

Bücher, Carl. *Industrial Evolution*, chs. I–IV.
Chapin, F. S. *Introduction to Social Evolution*, ch. III.
*Goldenweiser, A. A. *Early Civilization*, chs. VII, VIII.
Gras, N. S. B. *Introduction to Economic History*, chs. I, II.
*Lowie, Robert. *Primitive Society*, ch. IX.
Marvin, F. S. *The Living Past*, chs. I, II.
Marshall, Alfred. *Industry and Trade*, Appendix B.
*Marshall, L. C. *The Story of Human Progress.* (Quite elementary, but well done and readable.)
*Müller-Lyer, F. *History of Social Development.* (Probably the best discussion of "economic stages.")
Myres, J. L. *The Dawn of History*, chs. I, II.
Osburn, H. F. *Men of the Old Stone Age.*
*Petrie, W. M. Flinders. *Social Life in Ancient Egypt*, ch. I.
Quennell, M. and C. H. B. *The Old Stone Age.* Also a volume on: *The New Stone, Bronze and Early Iron Ages.*
Schurtz, K. *Grundriss einer Entstehungsgeschichte des Geldes.*
*Thomas, W. I. *Source Book in Social Origins*, part III.
Tyler, J. M. *The New Stone Age in Northern Europe.*
*Usher, A. P. *Industrial History of England*, ch. I.
Weber, Max. *Wirtschaftsgeschichte*, ch. III, sec. 6.

II. The Ancient East.

Breasted, J. H. *A History of Egypt.*
*Breasted, J. H. "The Eastern Mediterranean and Early Civilization in Europe," *Annual Report of American Historical Association*, 1914, vol. I.
Charles, B. B. Article on "Hittites" in Hastings, *Encyclopedia of Religion and Ethics.*
*Cunningham, W. *Western Civilization in its Economic Aspects*, vol. I, bk. I.
*Day, Clive. *A History of Commerce*, ch. II.
Evans, A. J. "The Minoan and Mycenean Element in Hellenic Life," *Annual Report of Smithsonian Institution*, 1913, pp. 617–18.
Goodspeed, G. S. *History of the Babylonians and Assyrians*, part I, ch. III.
Hall, H. R. *Ancient History of the Near East*, chs. V, VIII, X, XII.
Harper, R. F. *The Code of Hammurabi.*
Jackson, A. V. W. *Persia, Past and Present*, ch. IV.
*Jastrow, M. *Civilization of Babylonia and Assyria*, pp. 5–11, ch. VI.
Maspero, G. C. C. *Life in Ancient Egypt and Assyria.*
*Meyer, Eduard. Article "Persia" in *Encyc. Britannica*, 11th ed.
*Myres, J. L. *The Dawn of History*, chs. III–VII.
*Petrie, W. M. Flinders. *Social Life in Ancient Egypt*, ch. V.
Petrie, W. M. Flinders. *Arts and Crafts of Ancient Egypt.*
Rogers, R. W. *History of Babylonia and Assyria*, 1915 ed., vol. II.
Speck, E. *Handelsgeschichte des Altertums.* (A monumental but prolix work, suitable only for advanced students.)
*Usher, A. P. *Industrial History of England*, ch. II, pp. 24–38.

III. The Greeks and the Hellenistic Period.

Beloch, Julius. *Griechische Geschichte* (3 vols.).

Böckh (Boeckh), August. *Die Staatshaushaltung der Athener*, 3d ed. (English translation of First and Second Editions — Second as *The Public Economy of Athens*. This book is old, but it is still in a class by itself.)

*Botsford, G. W. *Hellenic History*, chs. iv, xii, xxiv, xxix, pp. 490–96.

Botsford, G. W., and Sihler, E. G. *Hellenic Civilization*, pp. 156–60; 180–83; 203–08; 360–62; 426–30; 488–522

Bury, J. B. *et al.* *Hellenistic Civilization.*

*Cunningham, W. *Western Civilization*, vol. i, bk. ii.

Ferguson, W. S. *Hellenistic Athens.*

Francotte, H. *L'Industrie dans la Grèce ancienne.*

*Gardner, Percy. *History of Ancient Coinage*, Introduction.

Glotz, G. *Le travail dans la Grèce ancienne.*

Gulick, C. B. *The Life of the Ancient Greeks*, chs. v, xi, xvii, xviii.

*Hogarth, D. G. *The Ancient East*, chs. iv–vi.

Holm, A. *History of Greece*, vol. iv.

*Marvin, F. S. *The Living Past*, ch. iv.

Meyer, Eduard. *Die Wirtschaftliche Entwicklung des Antiken Welt*, and *Die Sklaverei in Altertum.* (Essays in *Kleine Schriften.*)

Neurath, Otto. *Antike Wirtschaftsgeschichte*, 2d ed., 1918.

Rostovtseff, M. *A Great Estate in Egypt in the Third Century, B.C.*

*Rostovtseff, M. "Foundations of Social and Economic Life in Egypt in Hellenistic Times," *Journal of Egyptian Archeology*, 1920, vol. vi, pp. 161–79.

*Usher, A. P. *Industrial History of England*, pp. 38–47

*Westermann, W. L. "The Economic Basis of the Decline of Ancient Culture," *American Historical Review*, 1915, vol. xx, pp. 723–43.

*Zimmern, A. E. *The Greek Commonwealth*, parts i, iii.

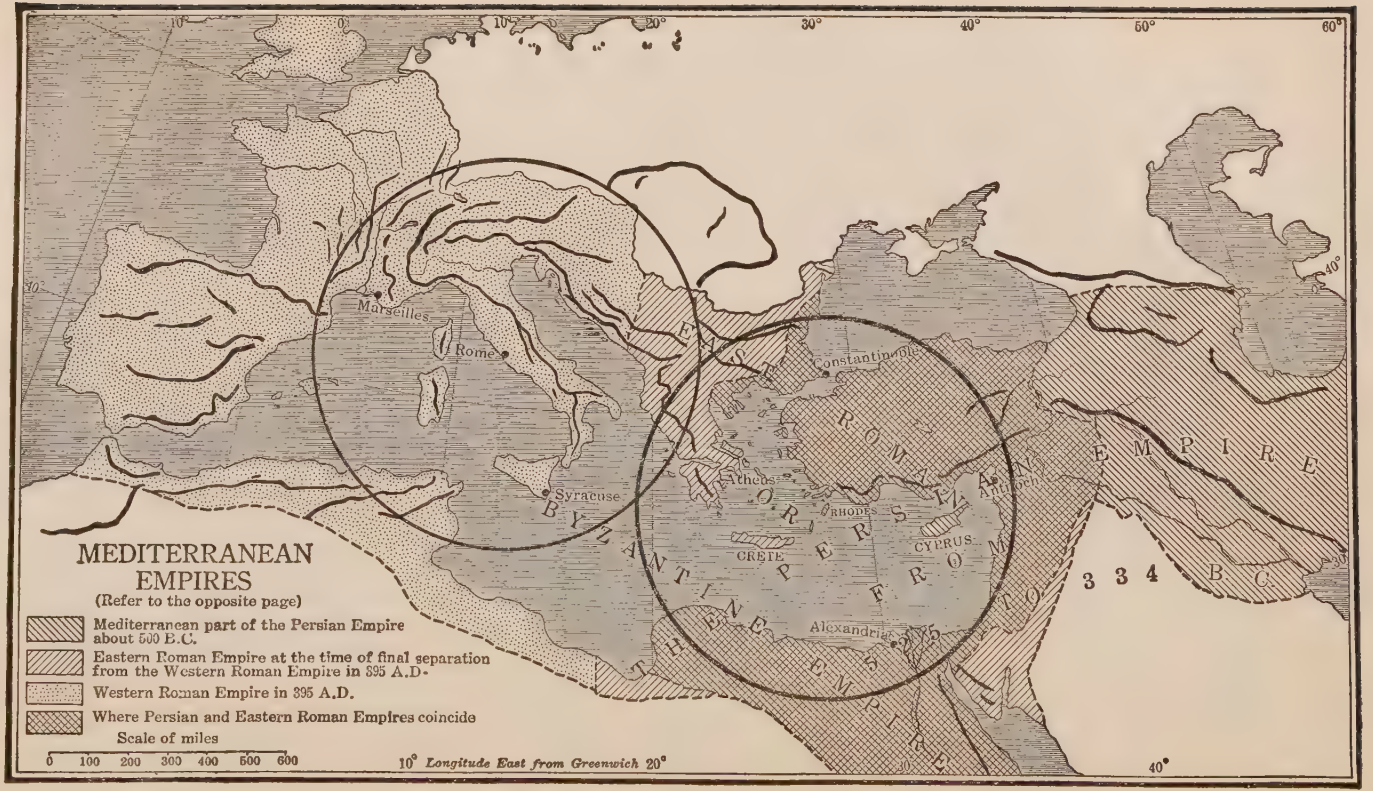
CHAPTER II

ROMAN ECONOMIC LIFE

THE IMPORTANCE OF ROMAN AGRICULTURE

Eastern Mediterranean city life, whether it had filtered into Italy with early Etruscan refugees and Greek colonists or arrived later in the currents of trade and imperialism, found little to compete with it in the agricultural West. The wealthier half of the Roman Empire itself — in the east and south — inherited its institutions from the Hellenistic age. Long before the great days of Athens, the Etruscans had been working the iron mines of Elba and the copper deposits of the Italian mainland, their bronzes and jewelry being highly prized in the most cultured regions of the Near East. Goods of Phœnician and Greek origin are found in their tombs. The connection between Hellenized southern Italy and the cities of the Ægean, and also the influence of the Phœnician Carthaginians, make it almost superfluous to remark that the commercial and industrial life of the Italian towns was of Near-Eastern origin.

Grains and stock had been raised in Italy since the Stone Age, however, and the highly developed agriculture of the peninsula was much less easily influenced than city trade and industry. Peculiarities of climate and soil are more decisive in rural than in urban life. For instance, the industry and commerce of the great Italian port of Puteoli were largely in the hands of Near-Eastern immigrants, who used the same methods there as at home, but nobody could cultivate the Apennine slopes in the same fashion as the Nile Valley. The more the Roman Empire expanded northward into the European continent, the sharper became the split into eastern and western divisions. Western Europe in ancient times was agricultural rather than industrial. Its agricultural methods and traditions — in Gaul and Britain as well as in Italy —


10°
0
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Marseilles
Rome
Syracuse
Constantinople
Athens
Antioch
RHODES
CRETE
CYPRUS
Alexandria
WESTERN ROMAN EMPIRE
EASTERN ROMAN EMPIRE
BYZANTINE EMPIRE
PERSIAN EMPIRE
334 B.C.
MEDITERRANEAN EMPIRES
(Refer to the opposite page)
Mediterranean part of the Persian Empire about 500 B.C.
Eastern Roman Empire at the time of final separation from the Western Roman Empire in 395 A.D.
Western Roman Empire in 395 A.D.
Where Persian and Eastern Roman Empires coincide
Scale of miles
0 100 200 300 400 500 600
10° Longitude East from Greenwich 20°

MEDITERRANEAN EMPIRES

(Consult the map on the opposite page.)

Mediterranean part of the Persian Empire, about 500 B.C.

Compare with the

"Eastern Roman" Empire, at the time of final separation from the "Western Roman" Empire in 395 A.D.

Where the two coincide, the pattern is, of course:

Between the two, in time, was the Macedonian Empire of Alexander the Great (336–323 B.C.), which had almost exactly the same boundaries as the Persian. (See map in Shepherd's *Historical Atlas*, p. 19. The Persian and Macedonian Empires are shown on the same map in Robinson and Breasted's *Outlines of European History*, Part I, pp. 80–81.)

"Western Roman" Empire in 395 A.D. Note on the map (Shepherd, p. 52) how this broke up within a few years, while the "Eastern Roman," or traditional Mediterranean, Empire remained intact. Turn now to the maps in Shepherd's *Atlas*, pp. 93 and 124, and note how closely the boundaries of the Ottoman or Turkish Empire coincided with those of the earlier Mediterranean empires. The early Sultans considered themselves to be legitimate successors of the Cæsars.

Circles, each with a radius of 500 miles, have been drawn with Rome and the island of Rhodes as centers. Was it an accident that maritime law was known as the "laws of the Rhodians" for centuries? Note how badly situated Rome is as a capital of maritime empire. The heavy, irregular lines are drawn to suggest the position of the mountain barriers. Rome was not even a good port.

All these ancient units were primarily "valley empires." Only Rome reached the plain of northern Europe, and she was not able to hold it. Note other maps of the Roman Empire, when it was even more extensive (e.g., the Shepherd *Atlas*, p. 35, which shows the boundaries at their greatest extent — under Trajan: 98–117 A.D.). When Rome reached farther into Europe than is shown on the present map, she also had enormously more territory in Asia. The mountain barriers and the relatively poor resources and situation of Italy kept Rome from becoming at once a great empire and a genuinely European state. Note how much of the territory shown, which is only about half the area of Europe, was not occupied by the Romans.

Finally, consult a map of the Turkish or Ottoman Empire about 1900, and see how nearly its territories coincide with those of the Persian Empire of 2400 years earlier. Political empire comes and goes; but the Keys to Eastern Mediterranean commerce are almost as much coveted to-day as they were two millenniums ago.

were very old, and they proved very persistent. While the Romans never held as much as a third of Europe, the area and population of their western lands were sufficient to prevent complete orientalization of the Empire.

Italy had far more good agricultural land than Greece — the nearest parallel in the East. A fairly dense population could be maintained without importing foodstuffs. There was also more and better pasture land than in Greece. On the other hand, Italy had few good harbors, and nearly all of these were on the southern or western shores. The lack of ports on the east side, and also a general westward and southward slope of the land, warrants the remark that Italy economically "turned her back to the east." This fact was accentuated by the topography of the Balkan Peninsula just east of Italy across the Adriatic, which has a mountain wall close to the west coast, and slopes generally to the east and south. Thus, in a sense, the two peninsulas stand back to back. North of the Italian Peninsula, which is some six hundred and fifty miles long by one hundred and twenty-five miles wide at the broadest place, is a continental region drained eastward into the Adriatic Sea by the Po River and its tributaries. This is a fine combination of a commercial site with an agricultural hinterland; but it was too close to the tribesmen of central Europe in early times, and was also overshadowed by the development of Rome. The mineral resources of the Italian Peninsula were meager, like those of Greece. Greece had more and better commercial sites, but Italy was far superior in agricultural resources. The more Rome's imperial edifice outgrew its agricultural foundation, the more its dangers and difficulties accumulated.

AGRICULTURE AND EXPANSION

Early Latium (about Rome) seems to have been cultivated with an almost Chinese intensiveness. The soil, being due in considerable part to volcanic ash deposits, was peculiarly susceptible to erosion. In the early days this was not a serious problem, the hills still being covered with forests which

held back the moisture. It would appear that the early agrarian economy of Rome was a landlord-and-tenant arrangement of a quasi-manorial type which suggests mediæval serfdom in many ways. In a long obscure struggle between the nobles and the Etruscan commercial aristocracy the cultivators appear to have been courted by both factions — at any rate, they were gradually emancipated. The period of the Etruscan kings, down to the foundation of an aristocratic Roman republic about 508 B.C., was evidently one of considerable commercial growth, and the increasing use of money probably had a good deal to do with the decline of serfdom.

The Roman Republic lasted nearly five hundred years. Much of this period is extremely obscure, and there is no possibility of attempting more than the suggestion of a few agrarian problems which arose. At the outset the Romans were only one of a number of agricultural groups occupying the territory between the more highly civilized Etruscans and Greeks. They followed a policy of compulsory alliances, counting as an act of war any attempt to withdraw even from pacts voluntarily made, and playing the weaker peoples against the stronger. By 265 B.C., they had conquered the Italian Peninsula. Besides their military qualities, which the Greeks had also possessed, the Romans were unique in the freedom with which they extended some or all of the privileges of citizenship to their colonies and allies. The most important of these privileges was the *commercium*, or right of the citizen of one city to transact business in another, with full legal protection. Through the confiscation of some lands in almost every conquest, the Government acquired the habit of dealing with a large public domain, parceled out by gift or lease to private individuals. When the encroachment on Hellenic lands began in earnest, it was natural enough for the Roman State to slip into the rôle of great landlord.

As the population of Italy increased, the hills were deforested, erosion ruined or threatened to ruin a good deal of the light soil, and in many places grain fields were superseded by pastures, olive groves, or vineyards. As in Greece earlier,

the small holdings gave way to larger plantations, held by people rich enough to purchase stock or to wait some years for returns from olive and vine. As conquest proceeded, adding new sources of grain, some lands unsuited to grain-growing were released for other purposes.

Numerous attempts were made to restore a system of smaller holdings. For example, the Veian lands north of Rome were given to all citizens in lots of seven *jugera* (about five acres). Such checks, however, did not overcome a tendency toward great estates. Wars and the planting of military colonies were a fairly heavy drain on the population, and the need for soldiers may have figured in the conferring of citizenship on such outsiders as the Sabine and Picentine peoples.

The acquisition of Sicily as incident to the struggle with Carthage in the third century B.C. carried with it an annual tribute of a million bushels of wheat. This was about half of the total amount needed. It was sold for the Roman treasury in competition with Italian grain, greatly to the prejudice of agriculture in the peninsula. An artificial stimulus to other than grain crops was thus provided, and the drift of the rural population cityward was further reënforced. This conquest of Sicily was in many ways a turning-point in Roman history. Rome lost her earlier self-sufficiency as to food supply. Instead of being the center of a federation of groups, she now gradually assumed the rôle of tribute-taker — of suzerain and exploiter of conquered territories. Her inheritance of the oriental land system of Sicily was an important step in the drift toward Hellenistic imperialism.

The wars with Hannibal were so costly in life and treasure that Rome was momentarily faced with ruin and depopulation. Large blocks of land in Italy were leased by the State to people with sufficient capital to utilize them and pay for the privilege. With the Sicilian tribute and the depleted population, there was no great incentive for raising grain at first, and many of the big grants of land were used for pasture. This gradually gave way to agriculture again as the

population increased. The great ranches became plantations — *latifundia* — worked largely by slaves imported from the East. Constant wars furnished a cheap supply of these unfortunates. Forty or fifty slaves might be found on one plantation, managed by an overseer who often was himself a superior slave. Absentee landlordism was probably the rule, since the upper classes had to manage Roman state affairs and maintain a high degree of culture among themselves, while agriculture remained the only socially approved type of enterprise for profit.

At various times such leaders as Flaminius and the Gracchus brothers attacked the plantation system. It was charged with producing a population of alien slaves rather than Romans, bad for the army, and incidentally for political life. Attempts to restore smaller plots worked by freemen met with only moderate success. Many of the new tenants were foreign-born soldiers or town proletarians, with no knowledge of agriculture. Not all parts of the country were suitable for small-scale operations, and many estates were broken up in such ways as to make cultivation unprofitable. At the same time slavery declined because it was economically inefficient and the supply of suitable slaves was lessened as Rome's conquests were pushed further from home. The Sicilian fields were overcropped and badly managed, so that their yield fell off at the very time when the increasing population of Italy demanded more grain. Slave labor was found unsuited to intensive grain cultivation on the loose Italian soil, as well as destructive to the best military class — the freemen. The situation had come to a head by Julius Cæsar's time, and within a generation the word *colonus* — that is, "peasant" or "cultivator" — had acquired the generally accepted meaning of "tenant." The same word was to mean "serf" later on, after the Empire had run its course toward orientalism and the standardized peasant was little freer than in Ptolemaic Egypt.

The foundation of the Empire was a foregone conclusion long before it took place. Rome inherited an interest in the

rivalry for eastern Mediterranean trade with the conquest of Greek southern Italy. Political complications with Greek rulers east of the Adriatic inevitably arose from this move, and especially as a result of the wars with Carthage, which led Rome to become a sea power. A rivalry for commercial and naval supremacy in the East had long existed between Egypt, Syria, and Macedon — the three most important Hellenistic states. Rome was superior to Egypt on the sea long before the close of the wars with Hannibal. The Romans had gained the enmity of the Macedonians by seizing lands east of the Adriatic in Illyria, and by alliances with the petty Greek city-states which were Macedon's rivals. An alliance between Philip V of Macedon and Hannibal paved the way to inevitable war between Rome and Macedon as soon as Carthage was out of the way. Like Rip Van Winkle's drinks, one conquest led to another, there being no place to stop. As one writer has remarked, the Roman Empire grew as a process of suppressing nuisances on the frontier. The conquest of the Balkans involved a clash with Syria, whose king had similar ambitions. Smaller independent groups like the Greek city-states and Pergamus in Asia Minor were promising spoils which led the Romans on. By 30 B.C. the one remaining link in the Near East was Egypt, which was seized in that year. It had been ruled by a Hellenistic aristocracy, superimposed upon the native population, so the shift of masters hardly created a ripple. Mark Antony had already seriously thought of Egypt as a nucleus of Mediterranean empire, and very likely others before him, including Julius Cæsar. When this empire was founded, in 27 B.C., the capital was not in the Near East, however, but in the far-away Rome, and conquered Egypt was a mere crown land in the new Roman Empire. In the meantime Spain had been wrested from Carthage, and the strip of mainland which connected the province with Italy had been expanded by Julius Cæsar to take in all Gaul.

The Empire was "Roman" in name, but its economic life was certainly not Roman, with the exception perhaps of

agriculture in Italy and some of the European provinces. The organization of agricultural labor, even in Italy, had been profoundly affected by oriental contacts, and the Government at Rome was to be more and more impregnated with the eastern idea of state lands and state interference in enterprise. On the European frontiers, on the other hand, there is no doubt that the Romanization of Celtic and Germanic agriculture was far from complete.

THE CONQUEST OF GAUL

Gaul was overrun and annexed a half-century before the Christian era, not so much because the Government wanted it or considered it of any value as because of the political and propagandist need for some sort of military triumph at a moment when operations in Asia were impracticable. Then, too, the southern fringe already held by the Romans was always in some danger as long as the main part remained unconquered. This was particularly obvious at the time of the Roman expedition because of German pressure westward. One Metellus, who was to have led the army, suddenly died, and his successor as consul, Julius Cæsar, took command, with results known to every school-boy.

During the civil wars following Cæsar's murder, the new province was practically lost sight of; but more than a generation after its conquest it developed an unexpected capacity to pay taxes at a time when the treasury was in a bad way. The great resources, natural waterways, and already fairly civilized, industrious population of the country proved a veritable gold mine to the astonished Romans, who had considered it a foggy wilderness. Men swiftly accumulated fortunes in this frontier land. Its linen soon rivaled that of Egypt, and its pottery competed disastrously with that of Italy.

Previously Rome's conquests had made her more and more an oriental state, threatening by their very magnitude to swamp her as a European power. Gaul threw a new and enormous weight on the European side. Civilization became

firmly established in the great plain of northwestern Europe, peculiarly fitted by nature, as we shall see later, to become the greatest nucleus of material culture so far.

Henceforth there were economically two Romes, the oriental Empire and the leader of western Europe. The great bulk of the European continent remained politically aloof, but Rome armed and drilled many of its people, while traders under her protection changed their standards and ideas. In time, the European frontiers were to dissolve, and the oriental Empire to lose its grip west of the Adriatic.

AGRICULTURAL METHODS

While Romans made little if any contribution to agricultural implements or technique, they scattered what was already known over vast new areas. The common cereals were wheat, barley, millet, pulse, and beans. Some turnips were raised for cattle, and a great variety of vegetables for human use. Among these were lettuce, cabbage, leeks, onions, carrots, asparagus, artichokes, cucumbers, and melons. Olives and grapes were produced in abundance.

The sowing of grain took place in spring and fall, mostly in the fall. Orchards were trimmed in the winter. Vegetables were planted in March. Hay was mown in May. Grain was harvested in June and July. Grapes and figs were gathered and dried in August, and wine-making was carried on in this same month. Olives were picked and pressed in the autumn.

Cattle were raised for draft rather than for beef or milk, and were much more plentiful than among the Greeks. Cheese was made, but butter was practically unknown. Horses, asses, sheep, goats, and hogs were common. Fowls were plentiful, and honey was produced on a considerable scale, taking the place of our sugar.

Agricultural implements had been little improved for centuries. The plow remained scarcely more than a crooked stick, which did not go deep or turn the furrow. So inefficient was it that two or three cross-plowings were sometimes

necessary. The Romans harvested with sickles and threshed with flails or by tramping out the grain on threshing floors. Irrigation was unnecessary in most parts of Europe, and especially difficult in the southern peninsulas because of the steepness of the slopes and the loose character of the soil. Extensive drainage works were sometimes used in Italy to prevent the rotting of crops during the rainy season.

Crop rotation was practiced, including the use of leguminous plants. When necessary to maintain fertility, the Romans combined diversified agriculture with stock-raising, and in the end artificial fertilizers were introduced from Gaul. These practices were not new, but were introduced where the character of the soil, the density of population, and the price of agricultural products demanded them. The letters between landlords and tenants in Ptolemaic Egypt were quite "modern" in their attitudes toward the fundamental problems of agriculture, and Varro's treatise (*De Re Rustica*), written in Italy before the Empire was founded, was to remain an authority for a good deal over a thousand years.

When we take up the familiar question of rural decline, it must not be forgotten that Italy maintained a dense population in a fair degree of comfort for centuries. Few historians maintain that the decay should be traced entirely to agriculture, which gave way like everything else under the intolerable burden of imperial administration.

EMPIRE AND RURAL DECLINE

Only the most general features of this decay of Italian agriculture can be traced here. The city proletariat grew at a rate which was both politically and economically embarrassing. It had to be fed somehow, and Italy did not furnish sufficient grain or the raw materials for great export industries, to pay for the deficit in cereals. The Government felt itself obliged to sell grain to the city population at less than cost or actually give it away. The cost had to be borne by taxation and by the revenues from the state lands. In either case, much of the burden fell on agriculture. Here we

have a curious situation. The Italian cultivator had to compete with grain from outside — often raised on better land than his. Besides this, he had to help pay for the competing grain, consumed in the city. To the extent that this was necessary to support the machinery of the central Government, it was justified, but the doles largely went to people who did not perform any real service to either government or industry.

Many of the showy public works, such as amphitheaters, baths, and palaces, which appeared in imperial times, were constructed primarily to keep otherwise idle labor employed. Like the Egyptian pyramids, they were natural products of the contemporary social order. They contributed to discipline and to the human pride in great common enterprises which make for social solidarity and public morale. The other side of the picture must not be ignored. They were social and political nostrums which reduced the symptoms of an economic disease rather than cured it. Carried out on a sufficient scale, they inevitably competed with economically productive enterprises — whatever their purpose. Added to the various other weights which the Government was throwing into the balance on the side of the urban rather than the rural classes, they helped encourage the exodus from country to town.

The ruling class was not blind to the dangers involved in depending too much upon imported grain for Italy. Still, as is nearly always the case with statesmen in office facing immediate practical problems, they were obliged to devote their main energies to the exigencies of the moment, hoping that the secondary consideration they gave the distant future would suffice. The program of small holdings was not finally abandoned until the utter inability of the Government to carry it out, with any means at hand, had been demonstrated. As late as Nerva and Trajan (96–117 A.D.), unsuccessful attempts were made to establish rural credit schemes, the six per cent return being used as a bonus to parents. The rural exodus continued, however, and the subsidies had no visible effect on the decline of population.

Much land went out of cultivation at one time or another. Some writers, notably Professor Simkhovitch, emphasize a loss of soil fertility, though others insist that this was unimportant, temporary, or a mere symptom arising from a much deeper economic malady, or from unfavorable climatic changes. It is one of the most obvious tenets of modern economics that lands thus abandoned are the marginal ones — those which barely pay even under favorable conditions. We know, for example, that it was the lure of urban occupations and the competition with the better grain lands of the West, quite as much as declining fertility, which led to the abandonment of many New England farms. There is every reason to suppose that the same economic laws applied in ancient Italy.

The situation became so serious that in the end the peasants were attached to the soil, the *coloni* thus becoming serfs, though not slaves. This policy of trying to force by law the cultivation of fields which did not pay for the trouble was no more successful than we should expect. By the end of the fourth century A.D., practically no class in the Empire was legally free to move from its place of origin. Even slaves could not be alienated from the land. The social history of Egypt had repeated itself, with even more disastrous results in Italy because of her geographic disadvantages. Italy had not the inexhaustible soil of Egypt, perpetually renewed by the Nile, and the Italian bankruptcy was more serious because of a large population which could not be supported on the resources of the peninsula. Once this population had been decreased by the disorders and hardships of the early middle ages to what the peninsula could support, Italy entered upon a new period of prosperity, which was gradually extended through access to new markets in northern Europe.

The growth of large estates, and of government interference, were notable features of Rome's rural decline. As early as Nero (54–68 A.D.), proscriptions and confiscations brought much land, especially in Africa, into the possession of the Government. Domitian (81–96 A.D.) saw the danger of

African competition to Italian agriculture, but his efforts to protect the latter were ineffectual. When the government tenants on the thin soil of Africa found it impossible to pay the high taxes, and threatened to throw up their leases, an imperial decree attached them and their descendants to the land. Many lesser freemen in Italy also found their taxes or rents confiscatory. For this reason, and sometimes also because unable to protect themselves as disorder increased, many voluntarily commended themselves to monasteries or great lords. They became *coloni*, bound to the soil, the final and formal legal decree being issued by Constantine.

In spite of government opposition, patronage increased. The patrons were men who got control of local affairs, protected their clients even from the Government, interfered with the administration of justice, and generally usurped the authority of the State. The independent middle class, crushed under the hopeless burden of responsibility for raising the taxes, gradually disappeared. As in Ptolemaic Egypt, their descendants were absorbed by the administration if it could make use of them, or otherwise dropped into the lower social orders. The great nobles of the old senatorial class, excluded from imperial politics, generally returned to their estates. Many of these estates grew to great size, and their owners acquired imperial immunity from taxation or openly defied the tax-collectors. The great estates, the *fundus*, and especially the frontier *saltus* of the final period, with its special jurisdiction and privileges (often independent of the administration of the *civitas* or municipality at the head of the district), resembled the mediæval manor in many particulars. Fustel de Coulanges and others have urged lineal and gradual descent of the mediæval manor from the later Roman *fundus*, depreciating the Germanic elements in the mediæval land system. This question will be dealt with later. True feudalism did not exist in the Roman Empire. The fief (*feudum*) of later times was granted chiefly for military service, and these Roman nobles were not a warrior class.

It is well to remember that by the fifth century Germanic elements had already entered into agriculture and land tenure through the settlement of whole groups within the Empire. Moreover, the assimilation of conquered peoples was never complete outside of Italy. The moment conspicuous decline of central power set in, the various partially assimilated racial groups on the fringes of the Empire began to reassert themselves and to follow their own customs.

The system of great villas or estates, worked by *coloni* (bound to the soil), both simplified and weakened government. Being run for profit and held by comparatively few people, such estates were convenient units to tax. The main difficulty with them was that they were too successful — they grew so powerful that the weakened central Government could not collect the taxes. With the reduction of the rural population to serfdom, the only class of Romans from which an effective army could be drawn disappeared. The city rabble, never conspicuous for soldierly qualities, was even worse. There was nothing to do but recruit armies from among the Germans, who were thus put in possession of the real force of the Roman State. One or another *coup d'état* of a German general, supported by his German army which had been recruited and drilled by Rome, need not occupy our attention. From an agricultural republic with a fine soldiery of freemen, Rome had developed into an imposing empire, the real wealth and strength of which lay in the Near East, not in Italy.

ROMAN INDUSTRY AND COMMERCE

The Romans imported many craftsmen, as well as the bulk of their designs and industrial ideas, from the East — or, strictly speaking, many had been *exported* to the West by eastern peoples before Roman times. For the most part the Romans were content to let the Greeks, Syrians, and other Near-Easterners handle their foreign trade. Science languished. Civil and structural engineering, however, made some systematic advance, but even here there was no start-

ling originality or inventiveness. The rulers who had lived in the eastern Mediterranean were greatly impressed with the superiority of the culture of the Hellenistic homeland, and did all they could to import it into Italy. Hadrian, Emperor from 117–138 A.D., is an example. His reign is perhaps the high-water mark of material progress under the Empire. It is worthy of note that he had long been stationed in Syria, and that the chief architect of his period was a Syrian.

Roman industrial life presents the spectacle of a personnel organized and disciplined with exceptional thoroughness, but working with only the simplest tools and no machinery as we employ the term. Much of the work was done by slaves, and the freemen who competed with these had no special standing. If an occasional man made money, he usually purchased land and entered the one occupation considered respectable — farming. The largely enslaved class of small industrials was hardly calculated to exploit discoveries or inventions, even if industry so manned had been productive of them.

It is very hard to do justice to the Roman point of view, largely because of certain presuppositions which are thrust upon us by modern economic life. The Empire had grown up on an agricultural foundation, and at the center of it as a social structure was a ruling landed aristocracy. Such of the imperial machinery as they had borrowed from the East, notably from Egypt, did not stress free enterprise, or remove the emphasis from the land. The Empire had been founded on rigid discipline, and freedom of industrial enterprise seemed to be its enemy. Large industrial organizations were well-nigh impossible, partially because wealthy people bought land or took government concessions for social reasons, partially because large, stable financial groups were permitted only in connection with state contracts. A great moneyed power outside of the aristocratic governing class would have been regarded as highly dangerous to the State. Slavery was taken for granted in industry, and the free laborer was often worse off than the slave. Unemployment

was one of the chronic Roman problems, and the introduction of mechanical improvements was actually discouraged for fear it would aggravate this situation. A man invented a machine and gave it to Vespasian, who thanked him and put it away because it would throw so many people out of work. Scarce and high-priced labor has been so much the rule in America that it is difficult for us to see why it is cheaper to coal steamers by hand in Spain, to weave by hand in India, and to use cradles rather than horse-drawn harvesters in many parts of Europe. Finally, Rome's imperial success in the Near East destroyed any chance she may have had for industrial and commercial leadership. The unification of the eastern Mediterranean region led to a great economic revival, raising up competitors within the Empire against which Italy, with her poorer situation and resources, was quite unable to contend.

There were some secret industrial processes, but the State did not issue patents or protect trademarks. Something like the modern joint-stock company existed to handle tax-farming and state concessions, but it was not found in industry. The small scope allowed to individual traders discouraged the growth of inter-regional exchanges of goods, and hence of adequate commercial banking facilities. These handicaps were more or less permanent and inevitable because of a general desire on the part of able and ambitious people to get out on the land and thus achieve social eminence or political power. Provincials and foreigners furnished somewhat of an exception, and the prejudice against urban economic activities seems to have been decidedly less in southern Italy, where the population was not of Roman origin. The successful business man had to be cautious in his enterprises, however, as any activity of a political nature was likely to lead to confiscation. This partial exclusion of business people from politics, and of politicians from business enterprise, was bad for both.

A few industries grew to large proportions through sheer force of economic circumstances — the pottery works of

Arretium and Puteoli, for example. The finest clay could be had in only a few localities. It was cheaper to spread the heavy expense of design over a great many articles. In brick-making, likewise, a restricted area yielded the best raw materials. An unprecedented demand in the city of Rome after the fire of Nero enabled Dominius Afer and his sons to convert the brick industry into a large-scale one. The blowing and moulding of clear glass, a Tyrian invention, also became a large industry, probably because the process was kept secret. Bronze was worked in fairly large plants, Capua being the center of the industry. The bronze castings were not for productive machines, however, to multiply the energies of man, but were chiefly works of art.

When we turn to basic industries, such as iron, steel, and textiles, the technique is seen to be amazingly primitive. Not until the fourth century A.D. was a method discovered for melting iron. Without this only the smallest castings were possible, and all ironware was expensive. Yet all that was needed to transform the industry was the introduction of a valve into the bellows, so that a stronger, steadier blast of air might be produced. There was little incentive, however, for the slaves or poor free artisans to bestow any constructive thought upon the matter. Some fairly good steel was produced in small pieces by rule-of-thumb methods, but there was a large element of luck in the process, since the chemical analysis of ores was not understood. The steel was made by hammering the impurities out of the iron and then reheating it by a charcoal fire. As this fuel contained a high percentage of carbon, the reheating of the pure iron introduced the carbon essential to the making of steel. Steel such as our modern spring and instrument steels must have existed in very small quantities, if at all. Even the famed Damascus and Toledo blades of a much later date, when greater heat could be applied, do not test up to their reputation. We could turn out better ones to-day in great quantities at an infinitesimal fraction of the labor. The mainspring of our dollar alarm-clock could not have been duplicated at all by the Romans, as to either quality or form.

Such concentration of the iron industry as took place — especially in the great port of Puteoli — was due to the presence of good wood for charcoal and of shipping facilities. Some fairly large central shops were to be found, but these were mere aggregations of smiths for convenience. As to large productive machinery, there was nothing even to correspond to the great mixing-vats of the pottery shops. Woolen cloth-making was a household industry, carried on largely by personal slaves in odd moments.

Under Greek and other eastern Mediterranean leadership, commerce fairly covered the Empire. A fleet of one hundred and twenty ships plied regularly between the Red Sea and the ports of India. The goods mentioned are, on the whole, valuable for their weight as compared with modern ocean cargoes. King Mithridates noted the presence of eighty thousand traders from Italy a little over a half-century before the Christian era.

The slowness and difficulty of transportation in classical times, by sea or land, should, however, put us on our guard against supposing that trade between localities played anything like the rôle which it does in our day. Even occasional figures which indicate a fairly large total commerce should be considered in the light of their *relative* importance in the economic life of a great empire. Localities supported themselves as far as possible, especially in respect of the heavier and cheaper commodities. As in Egypt and Mesopotamia earlier, canals and stone roads helped to solve the transportation problem, but the boats and carts were crude.

The leading exports from Italy were glazed pottery, Italian wines and olive oil, metal ware, and some lumber and cloth. Imports were more numerous and varied. Those from the East were primarily food products and manufactured goods. Grain came from both Asia and northern Africa, including Egypt — at times also from the lower Danube Valley, the Black Sea region, and Gaul. Dyes, precious stones, tapestries, rugs, and glassware were brought from Anatolia and Syria. From Syria also came linen and cedar. China sent

silk. Cotton, pearls, ivory, and spices came from India and the adjacent islands. Incense, myrrh, cosmetics, spices, and precious stones were among the imports from Arabia. Egypt and Ethiopia supplied fine cloth, glassware, papyrus, ivory, slaves, and beasts for the Roman games. The imports from the West were more in the nature of raw materials than of finished products, though linen cloth came in quantities from Spain and Gaul, and steel products from northern Spain. From Gaul also came hides, wool, salt meat, cheese, and certain ores, besides the cloth and grain already mentioned. Spain supplied much in the way of metals, both precious and those used in the arts. Tin was imported from England.

Nor should any one suppose that the tribes east of the Rhine, called "barbarians" and "Germans" by the Romans, were in anything approaching a state of savagery. They pastured stock, raised hay, grains, and vegetables, mined and smelted the metals, and some of them carried on considerable industry and trade. The Romans imported soaps, cosmetics, cloth, beeswax, amber, furs, and many other things from them. Rome's military defeats at the hands of the Germans and her gradual withdrawal before them give us a picture of tribes neither unorganized nor badly armed, though they were not as advanced in culture as the Celts of Gaul.

Until the middle of the first century A.D., cargoes destined for the capital were unloaded at Puteoli, one hundred and fifty miles distant. Then the port of Ostia, at the mouth of the Tiber, was dredged out and improved. Yet it did not capture nearly all the trade. Puteoli had the great advantage of being a manufacturing city, which could furnish return cargoes. There was probably a wholesale market at each leading port.

Few voyages were made on the Mediterranean during the winter months. Not only was there little to move at that season, but the sea was dangerous for the small ships then in use, unprovided with compasses. Saint Paul's famous voyage to Rome was probably not beyond the average in dangers

of shipwreck and delay. Independent captain-owners were the rule, as in pre-Roman times, when the Greek merchants had rarely established regular sea routes. Shipping subsidies and government regulation were natural corollaries to the dependence of the capital city upon imported grain. This government pressure tended to create larger units and to establish regular schedules to some extent, but the "tramp" or itinerant trade by single ships cared for the bulk of the business.

CRAFTS AND LABOR

It is possible to identify over eighty crafts, typical groups being the butchers, bakers, dyers, tanners, smiths, masons, boatmen, musicians, and barbers. In the imperial period, the crafts all had their *collegia* or workmen's associations. At first, these were social and religious. While the Government kept the poor quiet with bread and circuses, it did not provide for respectable and dignified funerals, so there was room for the *collegia* as burial societies. Without proper burial the disembodied spirit was supposed to stalk about — a horrible contingency, to be avoided at all costs. Not infrequently a craft association of this sort acquired the corporate right to some part in a public ceremony or procession. Under Diocletian, late in the third century, the Government forbade all change of occupation and used the association to aid in the administration and collection of taxes. While a good deal of craft skill must have passed down directly from Roman Gaul to mediæval France, there is no convincing proof that any of the organizations themselves survived.

The wages paid to Roman workmen in Cicero's time were around twenty to thirty cents per day. In the scale prescribed by Diocletian they varied from ten cents for unskilled laborers to thirty-two cents for painters, with the majority of the craftsmen paid around twenty-one cents. This sometimes included food and lodging. Considering the purchasing power of money, it was probably no more difficult to make a living then than now. Living quarters could

be rented at from one to two dollars per month. The State provided baths and amusements free, and gave grain at a low price or outright. There was no meat in the diet of the workman, the menu being chiefly wheat porridge, cheese, vegetables, olive oil, and wine. It is estimated that the average grocery bill per individual was from six to eight cents a day. Clothes were cheap, fifty cents' worth of wool making two tunics, and shoes costing about fifty cents per pair. In short, the laborer had little trouble in making ends meet in normal times, but alone he would have found it very hard indeed to meet the special expenses of a funeral, which cost about ten dollars.

It is difficult to estimate the effects of slavery in stereotyping Roman economic life and hampering progress. No organization of working people could achieve any great independence or bargaining power because of the competition with slave labor. The free laborer, as often as not an ex-slave or the descendant of one, had little more than a bare living. There was usually little he could do to better his condition, though occasional individuals did so. Important directive positions like that of steward or overseer were much more likely to be given to trusted personal slaves than to freemen. Strikes were practically unknown, as the workman could be replaced by a slave and left to starve. There was little room for self-improvement or personal initiative in such a system, and it is not strange that the mechanic arts muddled along with very little improvement.

FINANCE, CAPITAL, AND COINAGE AT ROME

The Romans left capital and capitalism little, if any, developed beyond the stage at which they borrowed it from the eastern empires and Hellenistic cities. The nobility invested safely and simply in real estate rather than in business enterprises, which were held in low esteem. In the time of Cicero, the amount invested in public contracts was about one per cent of that invested in real estate. It is difficult to estimate the amount of capital available for investment at Rome.

The two greatest fortunes recorded, both of Senators, were alleged to be about $20,000,000. The capital of the largest joint-stock companies carrying on public business rarely equaled $1,000,000, and private enterprises, including partnerships, with more than a small fraction of this capital were rare.

Most banks were operated as private ventures or partnerships. They received deposits, lent money on notes, mortgages, and real estate, and there is some evidence of the crude beginnings of modern discounting practices. Some of the larger banks had foreign agents and branches, and there was some beginning made toward the machinery of foreign exchange. There are probably a number of New York banks to-day each of which has a larger volume of business than that of the entire Roman Empire at the height of its prosperity. The rate of interest on good security ran from four to six per cent.

Partnership was the largest type of organization permitted to private enterprise in commerce and industry, incorporation being allowed only for holders of state concessions or debts. Liability being unlimited for each member, the size of business groups was practically limited to the number of people who could know and trust each other personally. The more partners, the greater the danger of unexpected dissolution through the death or withdrawal of some member. Large banking establishments were impossible, and the accumulation of fluid capital was hampered. A group of the more important business men, known as *equites*, was divided into two major classes, the *publicani* (from *publicum*, a public business enterprise), and the *negotiatores* (from *negotium*, a private business affair). The great military and other imperial undertakings, including the collection of taxes, called for an immense amount of organization for such tasks as building roads, erecting buildings and aqueducts, and getting the grain supply from abroad to Rome. Contracts were let out periodically by the authorities to companies of these *publicani* to perform a specified piece of work for a fixed sum.

Rome did not coin money until 366 B.C., probably because there was little need for currency in her simple agricultural economy. The bronze *as*, weighing one pound, at first served as money. Later the silver *didrachm* came in at a ratio of about 120 to 1. With this bimetallic currency Rome had the usual difficulty of keeping the metals in the proper ratio to each other. Alexander the Great's conquest of the East threw much new gold and silver into circulation, and prices practically doubled even in Italy. Presumably because bronze was thus doubled in value relative to gold and silver, the weight of the *as* was halved. During the Samnite wars, when copper was hard to get, the ratio fell to 20 to 1, but was returned in 269 B.C. to 120 to 1, peace having been restored and copper being again available.

The two-ounce war-time *as* was continued, but a new four-scruple *denarius* (originally called *denasius* because worth ten of the bronze asses) became the standard silver coin. Besides fractional bronze money, a one-scruple silver piece was issued, called a *sestertius* because worth two and a half asses. During the wars with Hannibal at the end of the same century, the values of silver and copper again wildly fluctuated, and reissues and revaluation were resorted to in order to prevent the disappearance from circulation of the undervalued metal.

Gold was first coined about this time, at a ratio of 1 to 16⅔, though the Greeks had been coining gold and silver at a ratio of 1 to 12. Precious metals, especially silver, tended to flow to the Orient to pay for imports, as they have generally done since. Nero debased the coinage by about twenty-five per cent, and within two centuries the coins had fallen to something like two per cent of their value in the early Empire.

As to the purchasing power of money metals, goods in which labor cost was the chief item were naturally cheap in a country of slaves, disfranchised peasants, and proletarians. Iron products were high-priced because of the crudeness of the industry. Imported luxuries were probably at least as expensive as now.

The total annual income of the Roman Empire in the most prosperous period could not have been much in excess of thirty millions of dollars — less than eight per cent of the yearly budget of New York City in our time. Direct taxes were discontinued in 167 B.C. The crisis of the wars with Hannibal was tided over with surtaxes on incomes, the farming-out of public works, loans on the public lands, and even free contributions from citizens.

During imperial times the Government was supported by the income from state mines and lands, indemnities, tribute, and booty — supplemented finally by provincial taxes, state monopolies, special taxes on inheritances and the price of manumitted slaves, and import and export duties. In addition to carrying on the civil administration of the State with the small income mentioned above, the Government had to provide for bread doles to the proletariat of the capital, for the equipment, maintenance, pay and retirement of the great army, as well as for expensive games, triumphs, and public works. Long before the withdrawal of the main capital from Rome to Constantinople, the Empire was in the direst straits for money. The great landlords, the richest class, managed to evade taxation, and the middle-class *curiales* and *decuriones* were gradually extinguished by the growing burden.

THE "FALL OF ROME"

The oft-employed expression "the fall of Rome" is vague and ambiguous. It does not apply to the Empire, which, to use the mining expression, rather "petered out" than came to an abrupt end. Reorganized by Constantine the Great just after 330 A.D., with its capital at Constantinople, it was divided into three parts by his sons in 337, reunited in 357, and more definitely divided into two parts in 395. Of these, the more important was the eastern, which had a continuous political history down to 1453. The Emperor at Constantinople recovered Italy and northern Africa in the sixth century, but lost most of it immediately — all of it eventually.

This leaves only Italy and the western European provinces to be considered. The city of Rome was taken and plundered, but not held, by the West Goths under Alaric in 410. It had ceased to be the imperial residence eight years earlier. During this whole fifth century parts of the European lands of this western fragment of the Empire were breaking off. In 476, Italy itself was taken over by a German general, Odoacer by name, who was recognized as ruler (but not king) in the peninsula by his ally, the Emperor at Constantinople.

If a fairly well-informed person mentions the "fall of Rome," then, it cannot refer to any dramatic event, but rather to a decay of the western part which was very obvious early in the third century, and complete by the sixth. The frontier which the Roman Government had been unable to push northeastward into the real heart of Europe was now removed by the unconquered peoples beyond it. Thus the field of European civilization was enormously enlarged, but this increase in size carried with it for the time being a great loss in unity, organization, and culture. The real problem in the "fall of Rome" is the question why the imperial administration was unable to maintain itself in western Europe.

Viewed in this way the question partially answers itself. The administrative machinery survived for many centuries in the East, where most of its history had taken place, and where, therefore, it fitted the geographical surroundings and the mental habits of its subjects. It worked worse and worse in Italy as the oriental model was approached. Economic life in the Roman Empire at its full extent was too varied for any stereotyped social system, such as had worked well enough in more compact, self-supporting Egypt. Italy was economically too dependent upon the outside. The city of Rome rapidly ceased to be self-sufficing, and developed into a great urban parasite upon the Empire. Italian commerce and industry were fatally injured by the competition of the Near East, which was restored to prosperity by the Romans themselves. Indiscriminate charity, partially based on political

motives and partly on economic necessity, destroyed the initiative of the population. Unfree labor had a fatal influence upon the energy and independence of free labor. The middle class, the backbone of the State, was crushed by the burden of taxation. Society came to be divided into the great mass of slaves and half-free *coloni* and a few great landlords who were able at last to defy the Government.

Generals struggled for the throne, ravaging imperial territories and upsetting public order with their armies while the frontiers went unprotected. Slaves and serfs were used as soldiers as the number of freemen declined, and finally the backbone of the army was recruited from among the Germans. Increasing numbers of German tribesmen settled within the Empire, often by invitation. Finally, these North Europeans took charge of government in the West in name, as they had long been its real bulwark in fact.

ECONOMIC STRENGTH, WEAKNESS, AND PERMANENT CONTRIBUTIONS

Looking at the whole imperial period, we see society transformed, under oriental influences, "from a régime of individual initiative to the régime of status." Under the Republic, the individual's position and activities had been largely determined by his own will and efforts. The Empire reduced the population to a number of castes and classes. Each man's position was determined by that of his father, and his rôle in public and private life was stereotyped. As in Egypt earlier, the burdens increased, and people sought to flee from them, into "the army, civil service, the church, or the wilderness," as Professor Boak aptly states it.

Given time to work itself out, empire — that is, dominion over wide and varied areas — has always depended upon superior creativeness. That is to say, only that empire is durable which can contribute to the prosperity of its subject peoples, thus giving rise to a surplus out of which to pay the expense of its maintenance. Otherwise, though it may go on for a time by force alone, a force which merely collects what it

does not aid in producing undermines itself progressively by stirring up more opposition than it can afford to put down.

Rome's greatest contribution, which enabled her to live for so long a time, must not be underestimated because it was so largely negative. She furnished discipline. Law and order, peace, and commercial intercommunication were established over an immense area. This in itself released for productive activities vast forces which had been burning themselves out in petty strife and competition or rusting unused in an atmosphere which offered insufficient rewards. Business enterprise follows in the wake of protection and stability because of the assurance that the fruits of initiative will not be arbitrarily withheld or taken away if won. A great peace like the *Pax Romana* tends to change the armies which have been destroying each other and the civilizations they represent into a great police force, whose main military activities consist of "pacifying" turbulent frontier groups or keeping them out of the peace area. This effects economy, besides banishing the perennial fears which so hamper business.

In defense of the Romans as creators, it should be remarked that peace is something more than the absence of strife. Property relations are extremely intricate — especially so where there is much property. Innumerable differences of opinion are bound to arise, among both individuals and groups. In order that these may not lead to disorder and destruction, it is essential to have a complicated code of laws, well enough worked out and administered to hold the moral support of the business public. The legal system as a whole must be considered just. To gain that "sacredness" in the public mind which the word "just" implies, the law must be elaborated with infinite patience, common sense, and experience with actual conditions. Looking over cases involving business under the Roman law, the novice is always astounded at the similarity of their practices to our own. One gets at first almost an uncanny sensation that all this took place only yesterday, and that the litigants and judges are his very neighbors. Remembering that the language of the Romans

was also that of the middle ages in western Europe, and that these legal codes were never entirely lost, it would be absurd to forget that Roman law is a first-rate factor in all subsequent economic history.

The *jus gentium*, or "law of all peoples," had far-reaching effects. Though it forms the nucleus around which modern international law has grown up, it was originally private law, dealing with the private individual whose interests were affected by the conflicting laws of two nations. It arose out of the practical situation of many aliens doing business with Romans. Though rough-and-ready practical law at the outset, it finally got reduced to something like a code. The magistrate often found it impossible to apply either the Roman or the alien law. By recording situations similarly dealt with by many nations, and also innumerable compromises between conflicting laws, a "law of all peoples" gradually appeared. While it could never be so definite as the civil law of Rome for Roman citizens, it was generally accepted by the business world as simple, universal, and fair to all parties. The law merchant of the middle ages grew out of a similar commercial need, as we shall see later, and demonstrated anew the importance of international business contacts as a source of legal practices.

Unqualified supremacy in the field of public order was in one sense the undoing of the Romans. Protection can only liberate business enterprise, and creates nothing but the rules under which human energy expresses itself. Carry those rules too far and they may throttle what they were devised to protect. Roman discipline reached a point where no sphere was left for individual initiative. Very little scientific or technical progress was made. Industrial processes and tools remained about where the Hellenistic age had left them, and many sciences actually lost ground. Even the implements of war were substantially unchanged, Rome's military supremacy resting upon discipline — that is, upon personnel organization. The German tribesmen had little difficulty in arming themselves as well as the Romans. When

the latter had taken the final step of training Germans instead of their own people for soldiers, the end was near.

To the student of economics it is an impressive fact that the producing classes had gradually withdrawn their support from a system which no longer gave them a surplus with which to pay its exactions for maintenance. Officialdom had become a parasite upon non-officialdom, the privileged few upon the non-privileged many, and town upon country. Like every other economic burden, that of maintaining this system rested in the end upon the producer, who was mulcted of the product of his hand and brain. Taxation had ceased to be a device for paying the expenses of government and become a vast instrument for the arbitrary distribution of wealth. So far in human experience, it has been impossible to get people to create much wealth for arbitrary distribution.

When the Roman Empire withdrew to Constantinople it left a fourth of Europe with the vestiges of a great legal system, with a memory of sumptuous and orderly life, with a Church and a language which, working together, were to provide a basis for intercourse and coöperation far beyond what would have been possible otherwise. There is no doubt that some craft skill had been permanently transmitted to western Europe. In spite of the great disorder to follow, it is impossible to believe that Roman pioneering in agriculture was entirely lost, or that the introduction of Near-Eastern business methods and ideas into western Europe was quite without permanent effects.

SUGGESTIONS FOR FURTHER READING

Abbott, F. F. *The Common People of Ancient Rome*, pp. 205–34.
*Boak, A. E. R. *A History of Rome*, chs. I, III, XI, XX, XXII.
Breasted, J. H. *Ancient Times*, pp. 484–99; 553–77; 605–07; 626–49; 667–72; 679–87.
*Carlile, W. W. *The Evolution of Modern Money, passim.* (The treatment of bimetallism in Rome is particularly suggestive.)
Cunningham, W. *Western Civilization*, vol. I, bk. III.
Davis, W. S. *The Influence of Wealth in Imperial Rome.*
*Dill, S. *Roman Society from Nero to Marcus Aurelius*, bk. I, ch. III; bk. II, chs. II, III.

*Fowler, W. W. *Rome*, chs. v, ix.
*Fowler, W. W. *Social Life at Rome in the Age of Cicero*, chs. ii, iii, vii.
*Frank, T. *A History of Rome*, ch. xxi.
Frank, T. *Economic History of Rome.* (Readable and suggestive.)
Frank, T. *Roman Imperialism*, chs. xiv, xvi.
Friedlander, L. *Roman Life and Manners under the Early Empire*, vol. i, ch. iii.
Huntington, E. "Climatic Change and Agricultural Exhaustion as Elements in the Fall of Rome," *Quarterly Journal of Economics*, vol. xxxi, February, 1917. (See Usher title below.)
Marvin, F. S. *The Living Past*, ch. v.
Meyer, E. "Wirtschaftliche Entwicklung des Altertums," in *Kleine Schriften.*
Munro and Sellery. *Medieval Civilization*, pp. 18–43.
Myres, J. L. *The Dawn of History*, ch. x.
Neurath, O. *Antike Wirtschaftsgeschichte.*
*Oliver, E. H. *Roman Economic Conditions to the close of the Republic.* (University of Toronto Studies.)
Peet, T. E. *Stone and Bronze Ages in Italy.*
Rostovtseff, M. I. *Economic History of Rome.* (Forthcoming — will be an extremely important work.)
Simkhovitch, V. G. "Rome's Fall Reconsidered," *Political Science Quarterly*, June, 1916.
*Sohm, Rudolf. *The Institutes.* A textbook of the history and system of Roman private law. (By all means, read some of this book, or another good manual of Roman Law.)
Thorndike, L. *History of Mediæval Europe*, pp. 23–39, 66–74, and ch. viii.
Tucker, T. G. *Life in the Roman World of Nero and St. Paul.*
*Usher, A. P. "Soil Fertility, Soil Exhaustion, and their Historical Significance," *Quarterly Journal of Economics*, vol. xxxvii, May, 1923. (This careful review of all the evidence should be used to check up explanations such as that of Professor Simkhovitch, above.)
Vinogradoff, Sir Paul. In *Cambridge Mediæval History*, vol. i, ch. xix.
*Westermann, W. L. "The Economic Basis of the Decline of Ancient Culture," *American Historical Review*, July, 1915.

CHAPTER III

MEDITERRANEAN EUROPE DURING THE MIDDLE AGES

MEANING OF "MIDDLE AGES"

If not permitted to use any dates, the ordinary person of some education will usually give a fairly acceptable definition of "middle ages." The middle ages, or mediæval times, was the period in western European history after the disintegration of the Roman administration and its accompanying economic institutions. This period lasted about a thousand years. After the definite retirement from Rome to Constantinople, there remained in the West no central government worthy of the name. With this process of shrinkage eastward out of the main part of Europe had gone a drying-up of commerce between regions in the part of the Empire thus cut off, due largely to want of protection and regulation. Each community now fended for itself as far as it was able. In this situation there was no great need for a stable and unified currency, even if a central government had existed to maintain such a system. The whole process of decay went together, with first one factor and then another most prominent. Without the vanished commercial and monetary system, paid armies and administrative staffs practically disappeared. The expensive Roman road system had been maintained for military and political as well as commercial purposes. It now disintegrated and fell into disuse. Many of the marketing centers had grown up around the great camps, and therefore went the way of the army and the roads in the general break-up.

There could now be relatively little exchange particularly of the heavier, less valuable commodities of everyday life except over extremely short distances. All central and western Europe was in somewhat the same situation as the eastern

Mediterranean had been at the period when the Phœnician and early Greek trading communities had gained such an astonishing ascendancy with very small means. The great days of the Phœnicians and Greeks had come during a sort of twilight of empire, after the decline of old Egypt and Babylon, and before the newer type of great state, which led from Persia through the Hellenistic period following Alexander and culminated in Rome, had found its stride. Likewise, after that imposing fabric of empire had been withdrawn from the heart of Europe to its native Near East, a new heyday of the *commercial city-state* arrived. This time the chain of trading towns (with such manufacturing industry as their commerce positively dictated) spread from the Mediterranean over the passes and along the waterways into the very corners of northern Europe. The economic and social similarity of the towns of these two periods long escaped notice because historians were so taken up with their more divergent artistic and intellectual life.

All but a small percentage of the inhabitants of mediæval western Europe lived in agricultural villages which produced practically everything they used and very little that they did not use. Especially in the earlier period and the northern part, a large majority of the towns of Christian western Europe drew most of their living from the surrounding country, and could enjoy very little more than the kind of living the locality provided. There was more genuine town life in the southern part, nearer highly civilized Constantinople and the Saracen states (including Moorish Spain), which inherited much the same ancient culture.

Strangest of all to the modern student, suddenly set down in the midst of a typical mediæval society, would be the labor system. Much of the coinage, like most of the trade, was local. Money was far less important in exchanges of things made chiefly for immediate use, not for sale. In such a situation wages also played a minor rôle. The division of labor was worked out on a basis not so much of payments as of personal obligations and privileges, according to social class.

Even in the vast agricultural society of central and northern Europe at this period, there were certain necessities which could not be produced locally. Some trade between widely separated regions being indispensable, it was always maintained. Transportation was so precarious and expensive, however, that there was more than the usual incentive to produce goods as near as possible to the place where they were in demand. Thus to a peculiar degree "commerce dominated industry in the middle ages," as Giry so aptly and accurately put it. Lest this important point be imperfectly grasped, let us summarize it briefly:

The absence of large territorial units with well-organized protection, administration, and monetary systems reduced inter-regional exchanges very nearly to what was absolutely essential. The importance of this commerce and the want of competition from larger and better organized units left the trading town in an exceedingly strong position, especially in the Mediterranean. As this commerce grew, which it did, the towns supplemented it more and more by manufacturing industry. In general, however, only such goods as were already specifically in demand were thus produced.

Whenever and wherever this "economic localism," modified by some trade which was in turn modified by some manufacturing, passed away, the situation was no longer typically "mediæval." The fact that this took place very gradually, and at different times in different regions, is what makes it impossible to lay down definite dates for the beginning and end of the "middle ages."

Again, we have a fairly definite idea of what we mean by "modern times," and of the series of related changes which ushered in the period — thereby closing the mediæval one, of course. By about 1500, let us say, inter-regional exchanges of goods had reached a considerable volume, and transactions based on money payments were obviously replacing the older economy based on social classes and personal obligations. Strong central governments had developed, with paid administrative staffs and armies. The new firearms were rap-

idly undermining the authority of the old noble fighting class of the middle ages. Printed books were becoming general. They were to make really popular education possible for the first time in human history, to enable really large groups to have common thoughts and feelings and to express a common will. America and the all-sea route to the East Indies had been discovered, and the Atlantic seaboard peoples of Europe were assuming the definite leadership which was more and more to characterize modern times.

It will be noted that this simple definition of the middle ages, in terms of what, when, and where they were, means that Constantinople and the Empire of which it was the capital never passed through any real mediæval period at all. In fact, the newer or "Eastern Roman" Empire, as it is often called, recovered from the amputation of most of its western European territories and enjoyed centuries of prosperity. Though it was not itself mediæval in any logical sense of the term, it is taken up briefly in this chapter because of its profound effects upon those parts of Europe which did have a "middle age." Spain is another very special case. After about two centuries (roughly the sixth and seventh), under the Germanic West Goths, it was captured by the Moslems, who founded a very high type of civilization copied after that of the Saracens of the eastern Mediterranean region, to be mentioned in more detail below.

The Roman organization in western Europe disintegrated very gradually, and the process was complete in some regions long before it was in others. Rome had never held as much as a third of the continent of Europe. The peoples which held the remainder detached her provinces one at a time — usually after long periods of infiltration and, in many cases, of the revival of half-submerged North European institutions within the Empire. To avoid the logical absurdity of giving any one date for a process so long, gradual, and complicated, let us simply remember that the decay of the Empire was very obvious by 271 A.D., when Dacia (the present Rumanian lands) was lost to Germanic tribes, and arrested in the East,

but practically complete in the West by 568 A.D., when the German Lombards settled down in northern Italy to stay.

One extremely important fact to remember about the early middle ages is the disappearance of the Rhine and Danube boundaries between the one fourth of Europe which had been Romanized and the three fourths which had not. Henceforward, Germanic and Slavic peoples were to be integral parts of European society. Any lines we may draw between "mediæval France" and "mediæval Germany" are largely imaginary, projected backward from modern times. They mean particularly little in respect of economic institutions. The real distinction here is between southern and northern Europe — the one near and the other far from Constantinople and the Saracens.

The Germanic tribesmen who actually settled in the former imperial territories were probably greatly outnumbered by the survivors from the Roman period. In any attempt to estimate the relative influence of the two upon the new institutions which presently took shape, however, it should be remembered that the Germans were the ruling element. Moreover, the destruction of the old order must have been fairly thorough — we have a good many fragments of contemporary description, and they are quite convincing. This applies particularly to northern Gaul and to Britain, where it is probably safe to say that we cannot *prove* a single case of the continuity of a Roman institution.

It will be the task of the remainder of this chapter to indicate how the scattered embers of ancient economic life were fanned again into flame in southern Europe and replenished by Byzantines and Saracens, and how this material culture was spread northward. In thinking of southern European towns, we must always remember the vast agricultural hinterland of northern Europe, enormously widened since Roman times by the fusion of races and the disappearance of the old imperial frontiers.

CONSTANTINOPLE

The new Rome on the Bosphorus inherited many of the defects of the old, such as bread and circuses for the rabble in the capital and heavy expenditures for unproductive public works. Both army and navy had to be large. In spite of them, the Balkan Peninsula was overrun by Slavs. The administration and army were too bureaucratic, too thoroughly separated from the people. Still, Byzantine civilization would have seemed less utterly strange to us than the truly mediæval order of most of Europe. There was an orderly central government, an adequate and standardized gold coinage, a banking system. Law and property institutions were on the Roman model, not fundamentally different from our own. Manufacturing and trade flourished, including foreign trade.

Justinian's reign (527–565 A.D.) marks the beginning of an upward turn in the fortunes of the newer Empire, though the reconquest of Italy and the old province of Africa was merely temporary. The Roman law was re-codified, all the imperial statutes down to 528 being collected and so arranged as to eliminate repetitions and contradictions. A digest was then made of the vast Roman legal literature, three millions of lines being reduced to about a hundred and fifty thousand. New laws were passed to fill obvious gaps and a brief textbook, the *Institutes*, prepared for law students. This *Body of Civil Law* (*Corpus Iuris Civilis*) was to prove as important in shaping western European institutions as it was in the Eastern Empire itself. Various partially Latinized German codes were used in the West for a time, alongside more or less garbled versions of the Roman law. Sometimes the two were mixed — particularly through Roman additions to the inadequate Germanic codes. By 1100, the Justinian Code had reappeared in Italy, from whence it spread over western Europe through the universities and became the basis of late mediæval and modern law. It is no accident that our modern attitude toward property and contractual relations is fundamentally Roman, not Germanic.

Besides trying to fight back Germans, Slavs, and others on his frontiers, Justinian launched a campaign of economy, retrenchment, and order in public expenditures. He stopped free circuses and the free distribution of grain at public expense, cut down pensions, and organized an efficient police system which stopped the disgraceful mob terrorizing of the capital and other large cities. His great public works are well known, especially the church of Saint Sophia in Constantinople (now a mosque).

The capital city had about a million inhabitants at a time when Rome had shrunk to a few thousands and town life in western Europe generally had almost disappeared. Though Gaul was ruled by Germanic Franks, its commerce was largely in the hands of merchants of the Eastern Empire, who had trading stations at Marseilles, Bordeaux, Orleans, and Chappes (near modern Troyes). Trade between the Eastern Empire and Gothic Spain went on by way of Barcelona and Cartagena. The money of Constantinople was the standard of the Mediterranean world, and was copied where it was not used. The Egyptian grain trade, which had once been Rome's, now flowed to Constantinople, Antioch, and other ports of the eastern Mediterranean. One great handicap to commerce was the presence of the New Persian Empire, which cut off Constantinople from the raw silk of the Orient and attempted to monopolize this trade for itself. Justinian's attempts to trade with China by way of the Nile, Ethiopia, and India or Ceylon were as unsuccessful as his wars with Persia. Another attempt to establish a trade route to China by caravan from Cherson on the Black Sea right through Asia came to grief — probably because of the expense of the long land journey and the unsettled conditions in Central Asia. Silkworms were finally brought from China, and a thriving silk industry grew up in Greece, Syria, and other parts of the Empire. Intensive agriculture reached a very high state of perfection.

The Balkan Peninsula was largely re-colonized. In addition to the Slavic, Bulgarian, and other invaders who, having

no national organization of their own as yet, submitted to the Emperor, large numbers of other colonists were settled in the peninsula by the Constantinople Government. Included among these were Semites, Arabs, Egyptians, Armenians, Persians, and Circassians, besides the usual imperial soldiers. The dominant strain was Slavic. Thus Macedonia was called "Slovenia," and a tenth-century Emperor records that Morea (Peloponnesus) had been completely slavonized. The colonists and invaders adopted the Orthodox religion (Greek Catholicism) and came under the Byzantine economic régime. A high civilization flourished once more in this region after about the tenth century, but it was far from being purely Greek or Roman.

Between 630 and 875 A.D., a new Arabian Empire, launched by Mohammed, cut off Egypt, wiped out Persia, and reduced the Asiatic holdings of Constantinople to Asia Minor. The Saracen capital, Bagdad on the Tigris, came to rival the city on the Bosphorus. These two states were incomparably more highly developed, as to both economic life and general culture, than anything in Christian western Europe at the time.

Both the Byzantines and the Saracens were on the decline politically by the eleventh century. The eve of the crusades was at hand, when the Near East was once again to teach the semi-barbarians of the West a more civilized mode of life. The Greeks and Arabs traded with each other, and both tapped the resources of China and the East Indies. Besides the showier silks and jewels, spices, grains, metals, and furs were objects of commerce. Luxuries were sent to and through what is now Russia, not only for grain and other commodities, but also for the much-prized slaves of northern Europe.

All the crafts of antiquity, together with some new ones, flourished at Constantinople. Great silk manufactories worked up the product of Syria and Greece. Besides the thousands of craftsmen making articles of luxury which would first strike the eye of the European observer, there were the makers of solider textiles, metal tools, weapons, and other wares. Money economy was a matter of course. The

bankers were organized into a powerful gild — practically a corporation. Economic life was founded solidly on industry as well as on commerce. The state hoard in 840 A.D. was recorded as $27,000,000. By the eleventh century, the annual revenue had reached close to a half billion of dollars.

Byzantine gild organization was so similar to that of the Italian cities engaged in eastern trade that it requires only passing reference. We see practically the same hierarchy of commercial and craft groups, with the financial, commercial, and legal people at the top, followed by the larger-scale industries, and the craftsmen, in the stricter, narrower sense, at the bottom. The significant difference lay in the presence of a powerful central government at Constantinople, capable of conferring wider monopolies, privileges, and exemptions, of enforcing a larger, more sweeping body of regulations than was the case in the Italian towns. This had the disadvantages of greater rigidity and the burden of maintaining a larger body of official bureaucrats, entailing much graft and corruption.

The fraternal aspects of gild life were much the same as in the Italian cities later on, and need not be discussed in detail here. The same may be said for the rigid system of apprenticeship in the crafts. Production, prices, and methods of work were so meticulously regulated as to leave little room for individual initiative.

"Gild," it may be remarked here, is a very loose term which has been applied to various associations of people for trading, industrial, professional, religious, and other social purposes in widely separated times and places. Such associations of persons for some common purpose are found among nearly all peoples which have outgrown a grouping purely by blood relationship and have not yet hit upon the more artificial and impersonal types of economic organization. The amount of political supervision naturally varies widely with the nature of the central government, the activities of the gilds concerned, and the traditions of the people who belong to them. The Norse Varangians from Scandinavia had a sort of arti-

ficial brotherhood very early. They were trading with Byzantines and Persians at least as early as the ninth century, and probably much earlier. Whether they independently developed the associations which appear later in northern Europe as merchant gilds, as necessary measures to carry on their trading operations, or whether they borrowed ideas from the highly civilized Near-Eastern peoples with whom they traded, is a question which can probably never be settled, since they did not leave written records. Just how much direct influence Near-Eastern traders had upon gild institutions in Italy, and both upon those of Northwestern Europe, is another interesting but very likely insoluble historical problem.

Even in the absence of convincing proof, we can hardly escape the surmise that the typical associations for economic purposes, as we see them full grown in western Europe a little later, had a multiple origin. Besides Norman institutions, on the one hand, and those of the economically developed eastern Mediterranean lands on the other, two other possible sources of western European mediæval gilds should make us cautious about adopting any simple historical explanation. The first, and perhaps the least important, of these is the remnant of Roman organization in western Europe itself. Much more vital, as well as more difficult to trace, must have been the exigencies of actual trade in a frontier country like northern Europe, where Greeks, Syrians, Arabs, Jews, Italians, and native merchants had to use their ingenuity in solving the practical problems of trading with each other or organizing the industries which lie back of commerce.

Constantinople's long supremacy obviously lay in the production or forwarding to Europe of luxury goods and in its favorable situation for commerce. This trade was largely in hands of foreign merchants, who lived in special quarters and enjoyed great privileges under government supervision. Among these were Amalfians, Venetians, Genoese, and other Italians, who were destined eventually to transfer much of the profitable trade between the East and Europe to their

home cities. Syrians and various Semites were the great foreign traders from the imperial lands themselves. These people were little attached to the Empire, and freely migrated westward and northwestward when the move offered commercial advantages. Thus Syrians and Jews from the Near East were the pioneers in finance in the Italian towns.

The highly perfected Byzantine nautical code and system of protection against pirates were copied by Italian towns such as Amalfi and Trani. Looking backward, we can see a sure though gradual shift of commercial leadership from the Byzantine Empire to Italy.

What has been written of Constantinople applies generally to the Saracens, who introduced paper from the borders of China, and the compass from China itself, and who made the finest steel in the world at the time. This Near-Eastern culture is of great interest, because it was conveyed to the western Europeans by the crusaders at a time when it was on the verge of extinction by the arrival of new hordes from Central Asia and by old internal quarrels. In fact, the temporary success of the first "crusade" (1096——) in capturing Antioch and Jerusalem was due to a three-cornered war among the Moslems which left the territory practically undefended. The presence of an outpost of Saracen civilization in Spain (to be discussed later) makes it unnecessary to go into details here concerning the homeland, since the two were similar.

The Byzantine Empire never recovered from the sack of Constantinople by Venetians and crusaders in 1204 and the succeeding half-century of Latin occupation. The bulk of its commerce went to rising Venice, though Genoa captured some of it later. The Tartars overran Russia in the same century, further crippling Byzantine trade with the East and North. The same people (called Mongols in Asia) took and practically destroyed Bagdad in 1258. A group of Seljuk Turks in the heart of Asia Minor and another of Ottomans next to Constantinople, both rivals of the Byzantines, were overwhelmed and almost wiped out for the time being in a new Mongol onslaught led by Tamurlane in 1402. This practically com-

pleted the devastation of western Asia and made trade along the old oriental routes increasingly difficult. Still, western Europe had had three centuries or more in which to make good its contacts with the higher civilizations in the East and to study their ways. The Ottomans captured the crippled remnant of the old Greek Empire at Constantinople in 1453, but it had been a mere shadow since the disaster of 1204, when commercial leadership in the Mediterranean and Black Seas had passed to the Italian towns.

The great economic contributions of Constantinople to the west can be briefly summed up. Italian prosperity was founded on a fabric of trade with the East which the Byzantines had maintained and enormously enlarged, deliberately extending it into the farthest corners of Europe. The import trade from the East in the Italian towns was at first rather export trade by Byzantine firms. Later many merchants and financiers, particularly Jews and Syrians, emigrated to Italy with their knowledge of business and their fortunes. Sound money, based on the gold Byzant, furnished a model for the later florins, ducats, and gulden of the West. Business paper, such as the bill of exchange and letter of credit, was used in trade with Italy, where it became established and was transmitted northward by Italian bankers through the medium of fairs, markets, and port trading stations. Amalfi and the other southern Italian towns were the children of Byzantium, in its own territory. In close contact with Constantinople, with which city she enjoyed special trade privileges, Venice overshadowed Ravenna near by — developed from a fishing village into the "Queen of the Adriatic" and the great commercial empire of late mediæval Europe. The Byzantine influence upon Genoa and other North Italian towns was hardly less.

SPAIN

Early in the eighth century, the Arabs and their more numerous North African allies displaced the turbulent Visigothic rulers of Spain. Very likely the conquerors were

aided by the defeated faction in a recent civil war and by the persecuted Jews, who correctly surmised that they would be more tolerantly treated by the Moslems. The Moorish conquerors of Spain displayed very little religious [1] fanaticism and set about acquiring the culture of their Moslem brethren of the ancient Near East. The best agricultural practices of the time were transplanted to Spain. Irrigation was developed in Granada, Murcia, and Valencia. Rice and sugar were introduced from the East. Stock-raising, mining, and manufacturing were developed. Trading with the Moslem East and the Byzantine Empire, they brought to the West eastern architecture, science, mathematics, medicine, and commercial knowledge. It seems to have been through them that the Arabic notation, including the use of the cipher, came to Europe.

Moslem Spain, as Professor Davis suggests, "could perhaps claim to be the best governed and most civilized country in western Europe, during all that distressing period which followed the break-up of Charlemagne's Empire." In an age when religious intolerance tended to shut the world up into compartments, the Spanish Moslems followed the opposite policy. Their rulers intermarried with those of southern France and their culture was pushed northward beyond their frontiers. Cordoba grew into a great center of Jewish learning. Christian priests were allowed to travel abroad. Foreign visitors came and went freely (for those times), sowing the seeds of Arabian scientific knowledge throughout a Europe not any too open-minded or receptive. Much which astonishes modern students of Roger Bacon's observations about science had long been commonplace in Spain, and was known to a great many other Europeans of the thirteenth century through the same source.

The State was supported by export and import duties, which indicates a large, well-organized commerce. Seville was the great seaport. Cordoba is represented by one writer

[1] Becker, Charles: *Christianity and Islam.* The Arabs do not appear to have been intolerant until the crusades.

as a city of two hundred thousand houses, six hundred mosques, and nine hundred bath-houses, besides great palaces and public buildings. Its great mosque, with nearly thirteen hundred columns of porphyry and jasper, was one of the wonders of Europe. At a period when Christian Europe was scraping off priceless classics to get parchment for recording childish chronicles in bad Latin, the Moors were manufacturing paper and writing scholarly commentaries upon the works of Aristotle and other Greek thinkers.

The gradual reconquest of Spain from the north by the more European elements was not completed until 1492 — the time usually given as the close of the "middle ages." It was of the nature of a series of crusades, necessarily accompanied by some destruction, feudalization, and militarization. Persecutions multiplied, until eventually both Jews and Moors were expelled. The crusaders absorbed much of the civilization of those they were trying to displace, as well as a great deal of the population itself. City life and economic activities in northeastern Spain were substantially the same as in southern France and Italy.

It was hardly an accident that the Iberian Peninsula, for so many centuries the home of freedom of thought, enterprise, and scientific inquiry, began the modern period as the leader in exploration, colonization, and overseas trade. The early loss of that preëminence was certainly due in no small measure to repudiation of the policies on which it had been founded.

ITALY

Southern Italy and Sicily continued under the rule of Constantinople after the Lombards had descended into the northern part of the peninsula in 568. Sicily was conquered by the Moslems between 827 and 902, but the attempt to add southern Italy to the Arabian world finally failed. It remained at least nominally Byzantine until the end of the eleventh century, when both it and Sicily were overrun by the Normans.

Greek continued to be spoken in southern Italy, and the

immigration of learned Greeks from Constantinople revitalized its civilization long before the period which has been known, rather inaccurately, as the "Renaissance." Next to Spain, Arab Sicily was the great source of mediæval European science and learning. The Jews were particularly active in the transmission of Arabian culture northward. This applies especially to medicine. More to the point for the student of economics, Greek Amalfi, south of Naples, was the great port where East and West met in the early middle ages.

Amalfi and Venice carried European slaves to Constantinople. Amalfian ships also visited Egypt, Syria, and Greece. Early in the eleventh century, the leadership of Amalfi was so outstanding that the laws of commercial navigation formulated by its legal schools on the basis of the Byzantine code were accepted throughout the Mediterranean. This preeminence was soon lost through the rise of Pisa, Genoa, and Venice. Pisa in its turn was overshadowed by Genoa and Florence. While Florence and Milan carried on extensive commerce, both were primarily industrial rather than trading places.

CITY *vs.* COUNTRY IN ITALY

The Germanic invaders were agriculturists, not town dwellers; but they did not sweep away city life in Italy, as their cousins did in the provinces of northwestern Europe. Southern Italy was not reached by the Lombards. Milan, an important city in Roman times, became a rallying-point for the beleaguered natives, was fortified and held out. Genoa is another classical town which continued to exist. Venice was founded during the disorders of the fifth century, by townspeople from the mainland. There were a great many others, but these may be taken as characteristic.

The survival of some Mediterranean towns and the gradual founding or revival of others was possible because of continued contact by sea with the civilized East. The new arrivals — the "barbarians" — were less overwhelming in numbers than in the north. Detached from their old homes, under new

and strange conditions, and in the presence of older inhabitants with an attractive civilization, these invaders did not cling very tenaciously to their customs.

Italy's case was peculiar in other ways. As the Roman Empire grew weaker, the rising Church took over more and more of the functions of government. The heretical West Goths were expelled by Justinian's troops in the sixth century. Their successors, the Lombards, were subdued by the Franks at the Pope's request in the eighth century. About the same time the Emperor at Constantinople, being taunted by the Moslems with idolatry because of the images in Christian churches, tried to eliminate the offending pieces by decree. The Roman Pontiff resisted, and the "iconoclastic controversy" which ensued was the occasion for an alliance of the Popes with the Frankish Kings Pepin and Charlemagne for protection against the Lombards. Charlemagne was actually named "Emperor" in 800. This meant two emperors, one in the East and the other equally far from Italy across the Alps.

In the year 799, Pope Leo III was expelled by the citizens of Rome. During the next two centuries, repeated cases of friction between bishops and townsmen occurred in northern Italy. The struggle for municipal autonomy became a general revolt against clerical and feudal authority, which, particularly in the eleventh century, spread over all northern Italy and into France, where it worked northward. Though the Popes eventually held the city of Rome, the commercial and industrial towns shook themselves almost entirely free from the conflicting authority of the Church and the two empires. The task of the communes was still further simplified by the separation of the Frankish State into two rival parts, later to become France and Germany — and at times there were many more than two. Much turbulence accompanied the early, popular, "democratic" phase of the communal revolt.

For a time the situation was exceedingly muddled and obscure. There was a determined attempt on the part of the

great landowners to make feudalism dominant. That this did not succeed gives us one of the sharpest distinctions between North European and South European mediæval institutions. Dominated by a landed aristocracy, the North formed itself into local, largely self-sufficient units which resisted the intrusion of Byzantine and Arabian influences and eventually developed a social order radically different from that of classic times. In Italy, the towns took the lead. Eventually, a new commercial aristocracy was able to play nobles, clergy, kings, and commoners against each other and to seize the real power for itself. This took place in Venice in 976, in Milan slightly later, spreading to Cremona, Bologna, Pavia, and Genoa.

Feudalism, a factor which we shall have to deal with from this point, is hard to define in economic terms. It presupposes a weak central government, a civilization predominantly agricultural, a situation in which military activities are unusually important, and relatively little of the economic specialization of persons and regions which emphasizes money economy. Even to pay armies and administrative officers in such a system, recourse is had to personal rather than pecuniary relations. The lord who wishes to maintain an army and court must hold his assistants to him by vassalage. That is, he makes his vassal do him *homage* — take an oath to support him in case of war with so many properly armed and trained professional soldiers for a given number of days per year. A grant of land called a "fief" is made to the vassal to enable him to maintain the necessary military establishment.

These fiefs (which sometimes consist of revenues and other grants besides land) are not "owned" (as we use the term) by the vassals. Where ownership as we understand it is general, feudalism cannot exist. When the vassal dies, the fief normally remains in his family; but the new vassal must usually pay a fine or relief as a token of renewal of the personal obligations for which the grant was made. Some money always circulates, even in a feudal society. If the growth of

trade favors this type of transaction, as it did in Europe, the reliefs and other fines or dues tend to get larger and take on the character of taxes. But this means the gravitation toward a pecuniary rather than a personal system of public relations, and hence the gradual disappearance of feudalism itself. While the typical feudal service is fighting, vassals must also be called upon for administrative and judicial duties, since the financial basis is wanting to organize a government on the salaried basis familiar to us.

Feudalism never took very deep root in Italy for the obvious reasons that there was too much trade (foreign and domestic), too much industry and town life, too much use of money. The units of a feudal system are perforce rather small and thinly populated because of its essentially agricultural character, the impossibility of an organization at once large and well-knit without considerable use of money, and the necessity for relative local self-sufficiency where the economic and financial basis for wide exchange of products is wanting.

The persistence of Roman legal ideas in the trading and industrial towns, emphasizing contractual and pecuniary relations, made true feudalism, such as we shall presently examine in northern Europe, doubly difficult in Italy. Eastern luxuries were never forgotten. They could be obtained only through foreign trade. Such trade cannot be feudalized. Instead of scattering out on country estates or manors, the Italian nobility tended to collect in the towns, where the wealth and luxury were concentrated. Thus it came about that even the hereditary aristocracy interested itself in the urban sources of wealth — particularly foreign trade — and that Italian upper-class life was more like that of Constantinople and the cultured East than that of agricultural northern Europe.

ITALY AND NORTHERN EUROPE

Not only the trickle of oriental goods which Italy transshipped to northern Europe throughout the middle ages, but

also the all-pervasive Church organization tended to introduce this ancient heritage of economic life little by little into such regions as northern France, the Netherlands, Germany, and England, where Teutonic institutions at first predominated. Papal taxes came from those far regions to Rome. Northern Europeans came to Italy because the Church Government centered there. Bishops and great lay lords of the North knew something of southern luxuries, wanted them, and imported them to some extent. Both the importations and the papal taxes involved the use of some money in the North. The desire for southern goods, the papal fiscal system, and the sweet memory of Roman centralization impelled northern rulers to introduce money and trade as rapidly as possible.

Southern France, which was much like Italy, deeply influenced northern France, particularly after the rise of the monarchy at the end of the tenth century. At the same period Germany got into close touch with Italy through the attempt to reëstablish the Western Empire — now called the "Holy Roman Empire" — this time with a German head. William the Conqueror went from northern France to become King of England in the eleventh century — actually taking Jews to that country in the hope of building up a type of economic life which could be made to yield revenue.

THE ITALIAN TOWNS AND THE CRUSADES

The part played by the Italian cities in the economic evolution of Europe is best seen after their functions had been stimulated and multiplied by the crusading movement. That they played much the same rôle long before 1096 is evident enough, but the earlier situation lacks the sharp outlines and obvious trends which lend themselves to brief treatment.

The roving groups of Germanic peoples which had so disturbed European economic life between the fourth and eleventh centuries had often carried their families and possessions with them. In some cases they had been numerous enough to settle down and dominate the affairs of considerable terri-

tories. The objective of practically all of them had been the Mediterranean shores, where the climate and mode of life had the lure of a promised land.

Among the most important of these groups were the Franks. Checked by the Arabian advance into Spain and Sicily, by the consolidation of the papal power in Italy and by fear of the Emperor at Constantinople, they were obliged to spread out over northern Europe. By Charlemagne's death (814 A.D.), they had beaten the Lombards of northern Italy, but made an arrangement with the Pope which left him very strong politically, so that the seat of the new Frankish Empire was at Aachen (Aix-la-Chapelle), far north of the Alps in what was later to become Germany.

This Frankish Empire soon split up, the western part being thrown into fearful disorder by the onslaughts of a new Teutonic people, the Northmen. Thus it was the eastern or German (least Latinized) part which next tried to dominate Italy, the German King Otto being named "Emperor" by the Pope in 962. When the crusading movement started a little over a century later, a fierce struggle had already begun to determine whether the German Emperor, the Pope, or the Italian cities themselves should control the peninsula. These cities, with their active commerce and considerable industries, were already taking a pretty heavy toll from northern Europe as commercial middlemen, forwarding oriental goods. The Papal revenues likewise tended to build up Italy at the expense of her northern neighbors. To the German Emperor the Italian trading towns seemed a promising source of revenue and power. Germany, which had hardly been touched by the Northmen, had so far largely escaped the minute subdivision into feudal units which had overtaken France as a result of the Norse invasions. Nevertheless, the renewed disorders had left all northern Europe swarming with soldiery, for which the need had declined. The noble warriors thus had little to do except devastate the country in neighborhood wars, engage in brawls and violent games such as jousts and tournaments, and live off the land like a cloud of locusts.

The German Emperors had not yet given up the idea of a strong central government on the Roman pattern. Much time was to elapse before they embraced French feudalism, with its hierarchy of smaller units and its looser form of organization. Hence the German idea of organizing the Italian towns within the Empire was to put them under imperial officers, though the actual attempt was not made until crusading times. Both the Italian townsmen and the Pope hotly resented any direct interference by North Europeans with their more highly developed economic and civil institutions.

At this period the Pope was a great political figure, as well as the spiritual arbiter of Europe. A large fraction of the land of Europe was in the hands of the Church. Aside from the direct German military menace to Italy, the Roman Pontiff was in difficulties over the administration of the Church estates in northern Europe. The kings, particularly in Germany, insisted on appointing the abbots and bishops, since most of them were feudal vassals of the lay rulers as well as administrative heads and religious leaders under the Pope. In the compromise (Concordat of Worms, 1122) whereby this matter was settled, the Emperors got rather the best of it. The Pope admitted the imperial contention that bishops and abbots in Germany must be satisfactory to the Emperor, as personal units in his economic and political system. They had to be elected in his presence and invested by him with their lay prerogatives *before* consecration.

In the meantime Pope Urban II had conceived the brilliant idea of turning the menacing North European soldiers directly against the Moslems of Palestine, Syria, northern Africa, and Spain. This would furnish an outlet for their religious zeal and warlike spirit, the love of adventure, and desire to reach the sumptuous southland.

The crusading movement, preached in 1095 and begun the next year, was badly managed on the whole. It was terrifically costly in human life, and (except in Spain) failed eventually of all the direct purposes for which it had been launched.

For nearly two centuries a tide of humanity, swelled by occasional larger waves which we distinguish as separate "crusades," swept southeastward across Europe into the Near East. We can only guess at the number — perhaps a million or more. They butchered their fellow beings and were butchered by them in Germany, Hungary, the Balkans, and western Asia (and Spain and northern Africa). They were enslaved, died of pestilence, were turned aside into purely military and commercial ventures like the war in Sicily and the capture of Constantinople from their fellow Christians. Some of them actually held all or parts of the Holy Lands for brief periods, setting up feudal governments there.

Never has there been a more striking example of Bossuet's remark that "men do other than they intend." The crusaders did not hold the Holy Land, convert the infidels, or permanently strengthen the Papacy; but they revolutionized European life. What temporary military success they enjoyed was due to divisions among the Moslems. By overturning the Byzantine Empire they weakened the final outpost of Christianity against Islam. Yet the crusading movement was one of the most fortunate things in history. It introduced much of the best in Near-Eastern civilization into Europe, scattering and popularizing it there, before a new series of devastating invasions set in from Central Asia which might have made the transplantation forever impossible.

The great commercial beneficiary was Venice. A fleet from Genoa and Pisa accompanied the first crusade. Later the Venetians fought the Pisans, seized the lion's share of the passenger traffic and the vast enterprise of forwarding supplies to Palestine, and in return for their services demanded a market for themselves in every town captured. They appropriated the fourth crusade in 1203 and turned its energies first against the (Christian) Hungarians in Zara, then directly against their great commercial rivals, the Greek Christians at Constantinople. The city was captured and a "Latin Empire" set up which lasted until 1261, when the

Greeks recaptured it, aided by the Genoese. Venice avoided responsibility for the government of this empire, but was careful to secure the Black Sea trade.

Venice, Genoa, Pisa, and other Italian towns profited not only by securing a virtual monopoly of the trade from Asia, but the crusades also rendered this commerce immensely valuable. The North Europeans discovered the comforts of civilization through contact with the Saracens. They became accustomed to shaving and bathing; to fine, soft cloths of rich colors, luxurious furniture, carpets and hangings, spiced food, and jewels.

VENICE AT THE END OF THE CRUSADES

In northern Italy generally, the popular phase of the communal revolt was practically over by the beginning of the crusades. Bishops had been replaced by elective "consuls" as executive heads of the governments. Besides the former great vassals and their sub-vassals, groups of ordinary citizens — descendants of the freemen who had helped form the original communes — had the franchise. The total number of voters, of all three classes, was a small fraction of the total population in most towns. They alone chose the consuls — ordinarily once a year. There was usually an advisory council or senate, and in some cases a more popular "Grand Council" of several hundred members. In really critical situations all representation was sometimes abandoned and a *parlamento* or mass meeting held in the public square. These gatherings occasionally resulted in street battles, the factions being made up of groups of noble families or gilds (*arti*) of citizens, or both. Warfare was carried on between cities as well as within them, trade and frontiers being the great sources of rivalry.

Venice stood somewhat apart from the other North Italian towns, being non-Lombard at the outset, outside the Empire of Charlemagne, and in closer touch with Constantinople. She had thus secured special advantages in the Levant trade before the crusades. A charter of 1082 conferred full liberty

to trade in the Byzantine Empire for a hundred years. This commerce brought Venice more and more into competition with Constantinople. The end of the century of special privileges was separated by only twenty-one years from the fourth crusade which degenerated into a commercial war between Venice and Constantinople, ruining the latter and erecting the former into the first maritime power of Europe.

At this time Venice was organized in quite a modern way, except for the narrowness of the franchise. The elected Doge (dictator or president) was held in check by six councilors and a senate. A committee of the assembly or lower house of four hundred and eighty members nominated the Doge, who was then confirmed or elected by the citizens. The system of taxation was elaborate and fairly democratic, the main problems involved being conceived about as they are now. For example, ability to pay taxes was held to be at least as important as ease of collection. Interest-paying municipal bonds were floated. By way of contrast, it might be noted that feudalism was just passing its zenith in northern France at the time, and that Germany, hitherto more centralized, was moving rapidly toward complete feudalization.

The Venetians introduced the silk industry from the Near East, where the Byzantine Emperors had planted it. Silk culture spread over much of Italy, and even into southern France. New dyes came in, and the Europeans caught the knack of fixing colors with alum. Among other transplantations were hemp, flax, and sugar cane. The first sugar industry in Europe was not in Venice, however, but in Sicily, where it was installed in 1239, as a result of Frederick II's cordial relations with the Saracens. Glass-blowing was introduced from Syria and became an important Venetian industry.

Venice's great contribution was commercial rather than industrial. She sent fleets of merchant ships to the Black Sea, Egypt, Aleppo, Asia Minor, and the northern coast of Africa. Here they were loaded with spices, silks, cotton, ivory, and other rare merchandise, for which were traded the

minerals, timber, and textile materials of Europe. The Venetian imports and manufactures went overland to Germany and to the great French fairs, particularly those of the Champagne district in the northeast. Before about 1300, the North European demand did not warrant great permanent markets, so one of the fairs would be held for a few weeks only, after which the traders would move on to another place. It was soon found cheaper and safer to send goods to northern Europe by sea, the Flanders fleet from Venice visiting Spain, Portugal, western France, and England en route.

England, a thinly populated island on the far frontier of civilization, quickly became the great exporter of raw wool much as western America and Australia were to be centuries later. The Flanders fleet then usually divided in the Channel, one part of it going directly to England. Italians (later the Flemish and German *Hanses* as well) set up trading counters or stations, particularly at London. It is a fairly typical case of foreign commercial penetration of a backward country, the traders even being subject to their own laws rather than to the ruder code of the British.

Besides the silk and glass manufactures mentioned above, the Venetians wove woolen and cotton goods, made cloth of gold, and had extensive iron and brass foundries. They not only copied the oriental manufactures themselves, but other Europeans to whom they sold such goods also began to reproduce them. Persian rugs, for example, were imitated as far north as Paris.

As in Constantinople, the Government closely regulated the voyages, but the actual trading was done by individuals, organized into commercial gilds. Since Italy was fast becoming a trading rather than an agricultural country, with its nobility living largely in the towns, large-scale commerce such as importing and exporting was accounted respectable. Even men of noble blood engaged in it. This kind of business required large capital, first-rate directive ability, and a great disciplined force to do the more routine work. Thus

the great commercial gilds of the Italian cities were not democratic in any modern sense, any more than were their prototypes at Constantinople or their still more remote antecedents in the older Rome on the Tiber.

Since the individual traded on his own capital, subject to gild and state regulation, the groups were very nearly what northwestern Europe later knew as "regulated companies." The gilds in the great industries were likewise aristocratic, run by a capitalist-directing class and employing journeymen who were practically day laborers. In fact, the word "journeyman" which we employ originally meant a worker by the day (Fr. *journée*), though its general adoption by English writers may have been in part because it also suggested the "wander-year" (Ger. *Wanderjahr*) of the craftsman who had completed his apprenticeship.

Italian bankers' gilds, serving both commerce and industry, were fully as aristocratic as the ones mentioned above. It is only when we reach the small retail trading and the simpler crafts, requiring little capital or executive oversight, that the sharp distinction between employer and employee disappears and we find the apprentice becoming a journeyman, the journeyman a master.

When traders came to Venice from the "back country" of northern Europe, they were closely watched and regulated. A German merchant must stay at the *Fondaco dei Tedeschi* or German Traders' House. He could not carry arms, was always accompanied by a Venetian inspector, and could trade with nobody but Venetians. His stock must consist solely of goods from Germany or northeastern Europe, and must be completely disposed of in the city, not carried farther. All this and a meticulous system of rules and fees were designed to insure the Venetian monopoly of trade and the profits thereof. It is hardly surprising that western Europeans sought so diligently for a sea route to the Orient.

The Venetian counterpart of the coaling stations which modern commercial nations struggle to control all over the world was a string of safe harbors from the mother city to the

Levant. Among these were the tributary city-republic of Ragusa, a large number of ports on the Greek mainland and islands, and innumerable trading posts and concessions along the eastern Mediterranean and the Black Sea. Ships crept along the coasts in those days. It was perhaps not so much their size as the simple methods of navigation which made it dangerous to venture far from a harbor.[1]

THE LOMBARD LEAGUE

In spite of the diversion provided by the crusading expeditions, the German Emperors continued the struggle for possession of the rich Lombard cities, and of the towns further south in Tuscany and central Italy. This led to the formation of a defensive league in 1164 by Venice, Verona, Vicenza, Padua, and Treviso. The confederacy was soon joined by many other members like Milan, Cremona, Mantua, Modena, Bologna, and the new town of Alessandria, founded to guard the one Alpine pass which did not already have a city at its southern end. By the middle of the twelfth century, the study of Roman law had progressed sufficiently to lend a new theoretical strength to the centralizing plans of the "Emperor Ever August of the Romans" — in Germany! The great imperial weakness was in the realm of facts, which corresponded only in the vaguest way with the resurrected theories. Emperor Frederick Barbarossa was decisively beaten in a pitched battle at Legnano, and the towns won their virtual independence in the Peace of Constance (1183).

The Tuscan towns just south of Lombardy — Florence, Pisa, Siena, and Lucca were among the most important — achieved their autonomy about the same time. They had been left to the Church when the Countess died in 1115. The Emperor had claimed, correctly enough, that the bequest was illegal, since fiefs must escheat to their overlord. In point of fact, Italy was not feudal, and the theories had little weight in the end. The long imperial struggle with the Papacy re-

[1] See map at close of Hazlitt's *Venetian Republic*, vol. I, for the location of these harbors and posts.

sulted in the practical defeat of both parties, the result being a group of virtually independent city-states.

MONEY-CHANGING AND INTEREST

Italian banking and credit institutions were developed under the influence of Constantinople. At first most of the purely financial operations in western Europe were carried on by Jews and Syrians, immigrants from the Levant. This was due largely to the fact that the Western or Roman Church was better able to enforce its prohibition of interest-taking, whereas the Eastern or Greek Church was subservient to a strong central government and could not prevent the legalizing of interest under the civil code. The prejudice of both churches against lending at interest was a survival of the ancient dictum that money in itself is sterile and does not create wealth, reënforced by the fact that much of the actual lending was for unproductive purposes and at exorbitant rates. At the outset the power of the Roman Church over finance, and the determination to classify fees for the use of money or capital as usury, greatly hampered business in the West. In the long run this attitude probably did more good than harm, leading as it did to careful study and much agitation and experiment, with the final result that capital loans for productive purposes at reasonable rates became separated in both theory and practice from actual usury in our sense of the term. As long as the Church remained firm in its general prohibition, most of the money-changing and lending was carried on by Jews and other non-Christian Semites, who were considered to be without hope of salvation anyhow.

The Jews, like the Constantinople Greeks, used the letter of credit and the bill of exchange to avoid the transportation of precious metals, which was especially undesirable in the more turbulent and politically subdivided West. Money-changing was a high and intricate art in days when a multitude of towns and feudal lords could coin pieces of a weight and fineness to suit themselves. The standard gold money was Byzantine and Saracen until about the end of the crusad-

ing period. The *florin* of Florence was first minted in 1252. This gold piece, named after the city flower stamped upon it, quickly became standard. In 1284, Venice began the coinage of gold *ducats* (so-called because of the effigy of the *Doge* or Duke). The cities of northern Europe followed suit with their *gulden* (that is, "gold pieces"). With the growth of powerful monarchies, feudal and ducal currencies were suppressed, royal coins taking their places.

Native Italians were in the meantime steadily encroaching upon Jewish financial supremacy. The Pope could hardly employ infidel Jews to collect his revenues. As early as the twelfth century, the Florentines gained the title of *campsores papæ* or Pope's money-changers. The advantage of handling these sums soon gave Florence a preëminence in finance. Italians from other towns were also employed as papal collectors.

The papal collectors who penetrated the remotest districts of northwestern Europe were not the only carriers of southern ideas about finance. With the groups of Italian merchants which followed the traveling markets or fairs of northern France, Germany, and England always went some money-changers. They were called "Lombard dogs" (*Lombardiæ canes*) after the hard bargains they were supposed to drive; though they hailed from Tuscany quite as often as from Lombardy. The name *Caorsini* was also applied by northern Europeans to money-changers in general. Cahors is a town in southern France, not far from Toulouse. The interchangeable use of the terms "Lombard" and "Caursine" further illustrates what has been noted above, that the commercial development of the Mediterranean region of Europe was roughly uniform. Commerce dominated industry in the middle ages, and the spread of commercial institutions was from the south northward.

While both civil and canon law continued to frown upon "usury," the practices covered by the term underwent a subtle transformation. In the first place, the prohibition was more and more evaded as the amount of capital used pro-

ductively in business increased. Circumvention was easy enough in cases where both parties were agreed upon it. A fee could be deducted at the outset without any record of the fact being made, or, what amounted to the same thing, a fictitious sum might be named in the note so as to include the interest. Sometimes a fine was agreed upon in advance by both parties, ostensibly for failure to repay the entire principal within a given time, though there was no intention to repay at that time. Again, the lender might prove that he had forgone another profitable use of the money, and thus collect damages. In some cases, the advantage of the loan to the borrower was estimated, and he shared the profits with the lender. According to the schoolmen (Church philosophers), this was generally classified as "unjust," on the theory that money does not "breed" of itself, like live stock, but becomes productive only when labor is applied: hence he who applied the labor — the borrower — was entitled to the entire reward. Such estimates became more and more common, nevertheless, tended to become standardized, and amounted in practice to interest rates.

From the thirteenth century on, steady progress was made under the leadership of the great money-changing gilds toward the limitation of the crime of usury to loans for consumption goods or at exorbitant rates. Pope Innocent IV (d. 1254) admitted the legitimacy of a charge for the use of commercial and industrial capital if risk of loss or a sacrifice of gains were involved. During this same century the Papacy took the Italian bankers under its protection, allowing them to use the Church courts and forcing their debtors to pay up under pain of ecclesiastical penalties.[1]

[1] The subject of usury and interest is adequately discussed in George O'Brien's *An Essay on Medieval Economic Teaching* (1920), ch. III, sec. 2. While usury was forbidden by the Church as unjust, interest was always allowed. Interest was not a payment for the use of money, however, but an indemnification of a lender for damage suffered because of the loan. Compensation for actual loss (*damnum emergens*) was always considered just; but payment for a profit forgone by the lender (*lucrum cessans*) was viewed with some suspicion. It was at this point that the gradual swing toward including under interest some charges earlier regarded as usurious took place. The admission of payments

This papal lenience with respect to productive capital, so long as the usury laws were not openly flouted, led to the development of many new forms of loans especially adapted to commerce and industry. The tendency was for the Lombards and other Christians to take over the business of lending for production, leaving the smaller-scale personal and pawnbroking loans to the Jews. Commercial interest rates in southern Europe became standardized from the thirteenth century at 10 to 17 per cent. It was a long time before this tendency was felt in more backward northern Europe — the rates in northern France and England were actually raised.

Interest on personal or exceptionally risky loans continued very high — sometimes 60, 80, or even more than 100 per cent, depending upon the circumstances. This kind of lending was left more and more to the Jews as commercial banking developed, with both Church and civil government favoring Christians in the larger and more regularized type of ventures which gradually won full moral sanction.

The passing of Jewish and Syrian leadership in European finance requires more than the usual explanation. These Near-Eastern financiers were settled in colonies in the Italian towns, and were sometimes admitted to citizenship. In Italy there was little prejudice against them on religious grounds before the crusades. Religious hatred and persecution, which have written so many bloody pages into the history of Spain, northern Europe, and the Balkans, were not characteristic of Italy. The amicable dealings of Frederick II of Sicily with the Moslems, in spite of the Papacy, constitute a well-known if not a humorous chapter in mediæval history. The mildness of the papal inquisition as compared, for example, with the Spanish has puzzled many an amateur historian until the thought struck him that the persecutions were primarily for political, not religious, ends. Only gradually, after the ninth

for probable loss of profit as early as the twelfth century (Pope Alexander III) was a long step toward the expansion of the term "interest" and the shrinkage in the cases covered by the term "usury." This change in commercial law and practices was accompanied by a loss of papal control over such matters rather than a shift in the Church's theoretical position.

century, as Professor Thompson has pointed out, did native Italians displace Syrian traders in the Champagne country of northeastern France. How did it all happen?

In the first place, the North European religious exclusiveness, which reached fever heat in the crusades, was transmitted in some measure to Italy. Syrian and Jewish citizens or favored colonists in Italian towns felt constrained to become Italianized, or suffered some disabilities if they did not do so. They became subject to decided disadvantages in northern Europe, with the result that Italian trading gilds tended to send Christians rather than Near-Eastern Semites into this field. On the other hand, the new harvest of business opportunities in the eastern Mediterranean tended to draw the Syrians and Jews, who understood the peoples and languages better, in that direction.

Genoese history furnishes an example of what must have occurred, though perhaps more obscurely, in other communes. About the middle of the twelfth century the five leading Italian families of Genoa, all related to the Visconti, formed a new association to monopolize Near-Eastern commerce. They took into this new group two leaders of the older financial aristocracy — a Syrian, Ribaldo di Seraphia, and a Jew, Blancardo. Naturally enough, di Seraphia and Blancardo looked after the business from the Syrian end, using largely Syrian and Jewish agents to help them. Viewed from the European side, this amicable division of labor gives the appearance of an eclipse of the non-Christian elements which is not strictly borne out by the facts. Blancardo, especially, continued to be a name to conjure with in North Italian business, but it was no longer associated with strictly Jewish enterprise.

In the long run the effect of such association and division of labor was a *relative* Christian supremacy, for the following reasons. European commerce and industry grew faster than Asiatic, the center of the Levant trade moving definitely to Italy in the thirteenth century; but the best Jewish and Syrian brains were placed at the Asiatic or losing end, the

lesser people remaining in Europe to compete with the cream of Christian talents and financial strength in the situation favored by historical circumstances. The ejection of the Jews from Spain at the close of the fifteenth century was a body blow, as they were permitted to carry very little with them. Their disabilities increased as the center of world economic activities moved northward and westward into territories held by more socially and religiously exclusive peoples. The partial modern resurrection of tolerance has restored to the Jews some measure of their former financial eminence.

Such resistance as the Church still opposed to the efforts of business men and lay courts to legalize commercial interest largely broke down during the disastrous period from 1305 to 1414, when the Papal See was first carried off to Avignon in France and then split up into three warring factions. The Italians were particularly incensed at the removal of the Papacy from its traditional seat in Rome. Europe's richest communities not only cut off a large fraction of the papal revenues, but likewise treated clerical pronouncements about economic life with scant courtesy.

Italian gildsmen insisted that money metal, even after coinage, was itself merely a commodity, and that if the use of it brought profit there was no reason why the owner should not get his share. We distinguish between interest as a legitimate payment for the loan of others' purchasing power and the extortion or "usury" which takes advantage of some urgent need of the borrower; but to the papal inquisitor the distinction often meant nothing. One of them reported with horror that a certain Ser Pietro of Siena was not only a usurer, but asserted that money-lending was not a sin, and that the people who held otherwise "did not know what they were talking about" (*nesciunt quid loquantur!*). As early as the thirteenth century, some of the civil laws of Italy began to assume the charging of interest by providing that lenders must be reputable and responsible people, and that rates must not be extortionate. In practice, business people gradually learned to separate payments for the use of money into three

parts: first, *interest* proper — a low and fairly standardized charge; second, a charge for predictable risks, which slowly evolved into *insurance;* and finally the varying risks which the business man must assume, paying himself in *profits.* In this last case the lender inevitably assumed some of the risk, so he charged a higher rate and thus got a share of the profits of the enterprise. Once capital came to be generally used to forward or manufacture goods for profit, as in Italy at the end of the crusades, the regularization of interest was inevitable.

Religious and quasi-religious groups played a rôle in mediæval economic life which the modern student will underestimate unless he bears in mind the enormous political influence of the Church and its unrivaled moral prestige in almost every department of life. The Templars had a large part in the inauguration of international capitalism, though they were soon surpassed by the gilds or companies of merchant-bankers which we shall presently examine. The Benedictine Order rivaled the Jews as pawnbrokers. The Franciscans founded the first of their *montes pietatis* at Orvieto in 1462 for lending money to the poor at reasonable rates. Even to-day, the Parisian *Mont de Piété* or state pawnbroking establishment still preserves the name and some of the traditions of the Franciscan founders. Yet nothing short of removing Jewish economic disabilities could have prevented or cured the usury evil, and Christians were too religiously exclusive to go that far. It was a vicious circle. The Jew was given a sort of scant and precarious tolerance because his type of loan was needed in emergencies. His rates were necessarily high because of the danger of prosecution and confiscation for usury — and he was persecuted because of his high rates.

FLORENCE — INDUSTRIES AND GILDS

Unlike Venice, which was chiefly a commercial forwarder for an overwhelmingly agricultural continent, Florence was fairly typical of the Italian industrial town. Hence its gild organization deserves more detailed mention.

By force and persuasion, the near-by nobles were early in-

duced to abandon their bleak feudal mode of existence and to become a part of the city life. Though little wool was grown in Tuscany, the Florentines built up the manufacture of superior woolens from raw materials of Sardinian, Spanish, French, English, or other foreign origin. Soon the superior craftsmanship of Florentine weavers led to the importation of the crudely woven cloths of northern Europe, to be refinished, dyed, and exported. This enterprise, subsidiary to the wool-weaving craft, was known as the "Calimala," after the side street (*calis malus*, or bad street) where its shops were located.

The third important craft (gild, if we look at the organization rather than what it did) to be established was silk-making, introduced from the Orient by Roger of Sicily in 1148. Side by side with these grew up the money-changers' or bankers' gild.

Besides these four, there were three additional "greater gilds" — or, more strictly, gild groups. The *speziali* or apothecaries began with a union of doctors and apothecaries, with the surgeons and midwives as dependents. A surgeon was socially inferior to a physician because the use of the hands was always less respectable than that of the head. Eventually, the apothecaries became great "wholesale" merchants, who felt that their dignity as men of business was somewhat tainted by their association with people like doctors and surgeons. Then there were the furriers and, finally, the judges and notaries.

The notaries or judicial group, though the last to appear, came to head the list of greater gilds. The judges took the title of *messer*, like the knightly class, and even the notaries were distinguished from mere commoners by the title of *ser*. There was no university at Florence. In university towns the professors usually shared the dignity of the judges, or even took precedence over them.

Besides the seven greater gilds, there were fourteen lesser ones, sometimes divided into five "intermediate" and nine of "little people." Among the intermediate gilds were the

linen-makers and butchers, while the masons, carpenters, and bakers were typical "little people." In general, the place of an industry in the hierarchy, or of a craft (in the narrower sense) within its gild group, depended on how ancient it was, how lucrative, or how aristocratic in its traditions. In practice there was naturally some variation in the weight assigned to the three criteria. Christian theology placed "spirit" above "matter," so that "liberal" occupations, demanding brain-work, were reputed above "servile" or manual ones.

After 1282, the gilds nominated the city authorities, so that it is hard to distinguish between the gilds and the government of Florence — if indeed such a distinction means anything. At first, the seven greater gilds played the preponderant rôle, but the lesser ones gradually forced themselves into a position of equality. The result of class struggles was finally a narrow but efficient oligarchy, which was in turn overthrown by the house of Medici, wealthy bankers and political bosses. The Medici ruled practically as despots until the end of the period usually called the "middle ages." At no time were there more than thirty-five hundred actual citizens, out of a population at its maximum of some ninety thousand. Only the resident nobles and the merchant class paid taxes or enjoyed political rights during most of the period of Florentine greatness — the rest, in town and country, were serfs or laborers.

The dominant position of great commerce — and incidentally of the great industry which fed it — in European economic life, and the preëminence of southern towns like Venice and Florence in these activities, gradually forced the introduction of capitalism and free enterprise.

Capital, strictly speaking, is a surplus in the form of tools, ships, raw materials, or other goods used to increase production. Its use makes production a longer and more complicated but more efficient process. The individual worker, however, can hardly ever wait for his pay until the eventual product gets into the consumer's hands at some dis-

tant time or place — he must have something which he can exchange for his daily bread. This something has usually been precious metal (or paper or credit which represents a given amount of such metal) of intrinsic, exchangeable value. Thus in human societies which have any considerable surplus, it tends to be represented by such metal, paper, or credit which can be exchanged. Whoever has this exchangeable currency or credit wants things to use for it. If, instead of buying goods to exchange now, the people who have purchasing power order the creation of tools or the accumulation of surplus food and raw materials, they demand payment. This is not only to cover a risk that they will never get the consumption goods, but it is also a charge for waiting. They are "capitalists." A capitalist, then, is one who devotes a surplus which he might convert into goods for present use to producing still more goods for future consumption instead. Of this added stock he demands a share.

Capitalism — a term which we must henceforth use from time to time — may be simply defined as the type of economic order in which the ownership of capital and the broader aspects of its management are separated from the technical details of production. Sometimes (as in many modern corporations, with their stockholders, bondholders, and salaried managers) ownership and management are also distinct; but this is not essential. The specialized capitalist, in mediæval Italy as elsewhere, must get his reward in the form of interest and profits.

The growth of an economic aristocracy and the gradual evolution of the gild system, with its small units and personal relationships, into a capitalistic economy is conspicuous in Italy. Where production is chiefly for foreign markets, industry always tends to be capitalistic and individualistic. In some cases industries whose operations had earlier been partitioned out among a number of crafts gradually became integrated. The separate crafts lost their isolation and independence as management became concentrated. An example is the woolen industry at Florence. The *Arte della*

Lana became more and more stratified into social classes, with the richer families at the top. It bought its wool, oil, etc., wholesale, distributing them to the masters, often without profit. Its warehouses, shops, and dyeing houses were used by all masters, and its funds were often employed to finance them. Finally it introduced new manufactures, hired foreign workmen to the prejudice of its own lower ranks, and generally employed the common funds in the interest of the upper classes. Eventually, it bought its own ships and became practically a "trust." A similar situation in other Florentine gilds led to a class struggle and to the dictatorship of the Medici family of bankers, as already noted. In northern Europe, the general trend of gild evolution was complicated by factors not present in Italy, as we shall see later.

BUSINESS ORGANIZATION AND METHODS

The stock company had its roots in mediæval Italy, in the management of the public debts of the city-states. Such a debt would be divided into round sums for convenience, something like modern shares. To insure payment of interest and principal, it was common to hand over certain taxes to the creditors. Thus these creditors were compelled to organize in some corporate fashion and to employ agents, bookkeepers, etc.

The actual transition to a stock company occurred in Genoa, in the fourteenth century. The Genoese Government had incurred a debt in connection with the conquest of Chios and Phocæa, sources of alum (used in dyeing) and gum mastic (for dyes and varnishes). There being no other immediately available revenue to assign to the furnishers of the funds for the conquest, the alum and other works themselves were turned over to be exploited for twenty years. The debt was divided into shares. The State being still unable to fund the debt at the expiration of the period, the alum company was left in possession of the property, represented by transferable shares. A century later the company was bought up by the Bank of Saint George, of Genoa. This

shows a notable advance over classic Rome, where private corporations were not permitted; but it is still far from the modern elaborate type of organization, with limited liability.

The standard forms of association continued to be the private partnership (commonly of relatives), the gild, wherein each man adventured with his own capital but under group regulations, and a curious hybrid known as the *commenda*. The "commendator" would furnish the capital for some venture such as a trading expedition, the "tractator" or manager getting one fourth the profits for his services. Often enough the manager also furnished some of the capital, which would modify the management and division of gains.

In thirteenth-century Italy, the bill of exchange had already largely superseded the general shipment of coin. This was merely a written assignment of a debt. Thus A in Genoa might owe B in Florence, but C in Florence owes D in Genoa. If A pays D and C pays B, transportation of money in both directions is avoided. These were introduced into northern Europe by Italian bankers and by papal revenue agents. Between countries, especially in northern Europe, where money was scarcer and there were elaborate legal restrictions upon its export, debts in distant places were still commonly paid by exporting thither some product thought to be in demand there.

The money-changer developed very gradually into a real banker. He had to have a strong-box to guard his stock of money and the valuable articles held as security for loans. A system of checking came into use. At first, A, who owed B, merely told his own debtor, C, to pay B. Both A and B had to be present. The written acknowledgment of the transaction was, of course, a check. Soon these checking transactions began to be made through bankers. The money-changer's strong-box or well-guarded house made him a natural depositary for people's valuables or surplus money. When each of two merchants had an account at the same bank, debts between them could be adjusted simply by a

transfer of credit on the books by the depositor's order or check. Soon the presence of all the parties ceased to be required. The clearance between banks of personal checks on each other was of very slow growth — it is quite imperfect even in present-day France.

As soon as checks came into general use, the bankers had a considerable surplus of money beyond that needed in any day's transactions. So they began to lend money or to trade with it themselves. Finally, they began to offer interest for deposits left for a considerable time. Thus investment banking appeared.

The Bank of Saint George in Genoa was the most famous of the mediæval concerns. This was originally an amalgamation of various groups of state creditors, one of which has been mentioned above. It reached its definitive form in 1407. It managed certain state revenues and foreign possessions, did a general banking business, received deposits, and invested its funds without interference from the Government, with the provision that it must always honor its paper. Management was by boards elected by some five hundred shareholders. Saint George was synonymous with solidity. The institution survived until 1816, when Genoa lost her independence as a result of the Napoleonic Wars.

Marine insurance appeared in Italy about the middle of the fourteenth century, and soon spread to land trade. It bore the marks of its money-lending origin at first. It was usual to lend a sum of money to the ship-owner, to be repaid when (if) the vessel came safely to port. It is very likely that the Antonio of Shakespeare's *Merchant of Venice* would have had his argosies insured; but England had been a backward country commercially, and we could hardly expect a sixteenth-century British playwright to grasp the intricacies of Italian economic life.

Lombard, Tuscan, and Caursine banking operations can hardly be overestimated as factors in the economic evolution of Europe. For three hundred years (from about 1200) practically no first-rate enterprise could go on without the sup-

port of capitalists such as the Ricciardi, Bardi, Peruzzi, and Scali. Their branches were scattered from Asia Minor to Flanders and London. Besides financing imports and exports, they advanced enormous sums to popes, emperors, kings, and nobles. Edward III of England defaulted in 1340, owing some twelve million dollars. Italian bankers helped organize the finances of kingdoms, and spread the practices of the South throughout Europe. Wherever they operated, a concentrated surplus appeared, which in its turn developed a class interested in the arts and sciences, in the luxuries and the amenities of life.

Bookkeeping was also developed in Italy. Money transactions on a large scale required it. Arabic numerals came into general use in the thirteenth century. The difficulty of systematic accounting before this innovation can be appreciated by attempting to add or multiply together groups of Roman numerals without reference to Arabic figures. This, by the way, is hardly a fair test, as any one familiar with the mathematical devices already in use can testify, but the advantage of Arabic notation for accounting purposes was very great. Papal accounts furnish the earliest example we have of modern bookkeeping. North European business people sent their sons to Italy to study accounting, and the first textbooks on the subject were published there.

Once commerce had become widespread and industries had begun to produce for distant markets, elaborate accounting became a necessity. No longer did the craftsman make goods for a consumer known to him, often ordered before their manufacture was begun. The great industrial gild arranged for production, and made up goods to sell to anticipated buyers at a date often far in the future. Aside from the intricate records required by such transactions as a part of the day's work, estimates of demand had to be made up largely from the figures on past business.

GREATNESS AND DECLINE OF THE LEVANT TRADE

The greatness and decay of mediæval Italy are closely

bound up with the eastern trade. The most prosperous period was about the beginning of the fifteenth century. Venice had a population of 190,000, and her annual revenue exceeded $2,500,000. An army of some 40,000 men was maintained, and the commercial fleet of 3000 ships was protected by a navy of 45 men-of-war, manned in all by some 36,000 seamen.

It is hard to get at the exact size of these ships. Accounts of the crusades mention the transportation of as many as one thousand to fifteen hundred pilgrims in a single vessel. This seems exaggerated. We know of some ships of thirty or forty tons, but there are also records of others which must have reached four or five hundred. On the one hand, these are several times as large as northern European craft of the period, but on the other, the ordinary tramp steamer of today has ten times the tonnage of the largest of them. The standard mode of propulsion was by oars, though sails were also used.

The compass was in general use by about 1300. Crude charts or "sailing directions" soon appeared, dealing with the bottom, tides, prevailing winds, etc., as well as with shore lines. Only at the end of the "middle ages" did the charts and the methods of "live reckoning" (by the stars) become sufficiently accurate to enable mariners to strike boldly out into the open sea. Not only did pirates abound, but, worse still, the fleets of rival towns were likely to swoop down upon an insufficiently protected merchantman without warning or any formal declaration of war. The ships themselves were crude, and often unseaworthy. With the difficulties and risks of navigation, transportation was so expensive that it was limited as far as possible to articles of slight bulk and high value. Even a commodity like spices cost two or three times as much in Bruges as in Venice, and English wool sometimes sold for ten or twelve times as much in Florence as at home.

It is needless to run over the long list of southern towns. Florence was slightly less than half as populous as Venice.

Its wealth may be imagined from the fact that a single loan of 1,365,000 gold florins (nearly $3,500,000) was made to King Edward III of England in 1338. (Incidentally, this was never repaid!) The gold in circulation in the city amounted to some $5,000,000. The wealth of the Papal Court at Avignon in 1334 was estimated by Villani at over $60,000,000. Were it possible to reduce these amounts of precious metal to actual purchasing power at the time, the sums would be seen to represent much more wealth than appears at a glance. For example, a bushel of wheat cost about eighteen cents in Edward III's reign — an ox about three dollars.

Economic leadership passed from Italy to the Atlantic seaboard states of Europe at the opening of the "modern" period (sixteenth century) for reasons not difficult to grasp. Italy was poor in food products and raw materials as compared with her northern and western neighbors. After they had borrowed most of her superior economic organization, her primacy depended upon a monopoly of the three great routes to the East, via the Black Sea, Syria, and Egypt, respectively. This monopoly was defended by a number of small city-states, hostile to each other and so wealthy relative to their size and strength as to tempt the rising national states near by to conquest.

The capture of Constantinople by the Ottoman Turks in 1453 was a blow at the prestige of Venice, whose commercial greatness had been partially founded on a similar conquest in 1204. The Turks were at first disposed to make great concessions in order to keep up the trade which made their new capital valuable; but they wanted their share of the revenue, and Venice soon felt the disadvantage of a strong power at the Straits. The aggressions of newer and wilder groups of nomads hampered the caravan trade over the middle and northern routes. Thus at a period when the European demand for oriental goods was increasing, the supply was rendered more precarious, and impossible to increase without making it still more expensive.

French, Spanish, and Hapsburg military interference in Italy around 1500 sadly upset things. The military menace of the advancing Ottomans grew ever more expensive and serious, especially to Venice. But the most ruinous blow of all, affecting the Turks as well as the Italians, was the discovery of an all-sea route from the Indies to western Europe which avoided the Mediterranean altogether. Southern Germany was almost as hard hit.

The Italian monopoly of oriental trade was not only broken: the new route was so much cheaper that Mediterranean competition with it was in time completely crushed, leaving only the commerce with a partially ruined Near East. A tedious and expensive land stretch in the journey had been eliminated, and with it the necessity of several groups of forwarders. With the cheaper transportation and the new facilities for carrying large quantities of goods the character of the trade underwent a change. Bulkier and less valuable articles were imported from the Orient by water. In this traffic the Italians could not compete at all, even if they could have got on with the Turks and kept the land routes open. It is reasonably certain that the Venetians and Ottomans together could have reopened the ancient Suez canal and vastly changed world history to their advantage; but aside from the usual hatred of competitors, there were religious and racial barriers to coöperation. Anyway, nobody saw the real point to the shift of trade at the time. There is evidence of this in the continued struggles of France and Spain for the squeezed lemons of Italy and central Europe.

SUGGESTIONS FOR FURTHER READING

Babelon, E. *Commerce des Arabes dans le nord de l'Europe.*

*Boissonnade, P. *Le travail dans l'Europe chrétienne au moyen âge*, chs. III, IV, V.

*Byrne, E. H. "Genoese Trade with Syria in the Twelfth Century," *American Historical Review*, vol. XXV, pp. 191–219. (January, 1920.)

Burckhardt, Jacob. *The Civilization of the Renaissance in Italy*, ch. VII.

Cambridge Mediæval History, vol. IV. (Scattered materials. Consult Index and Table of Contents.)

Cambridge Modern History, vol. I, pp. 253–87 (Venice).

Chapman, C. E. *A History of Spain*, chs. v, xii, xv.
*Cheyney, E. P. *European Background of American History*, chs. i–ii.
Cunningham, W. *Western Civilization in its Economic Aspects*, vol. i, bk. iii, ch. iv; vol. ii, bk. iv.
Davis, W. S. *Short History of the Near East*, ch. xiv.
*Day, Clive. *History of Commerce*, chs. ix, x, xi.
Doren, A. *Entwicklung und Organisation der Florentiner Zünfte im 13. und 14. Jahrhundert.*
Goldschmidt, L. *Handbuch des Handelsrechts.*
Gross, C. *Gild Merchant*, vol. i, Appendix F, pp. 282–89.
Hazlitt, W. C. *The Venetian Republic*, vol. i, chs. viii, xi.
Heyd, Wilhelm. *Geschichte des Levanthandels im Mittelalter*, vol. i. Also a French edition, *Histoire du commerce du Levant.*
Hodgson, F. C. *Venice in the Thirteenth and Fourteenth Centuries*, ch. vi and matter scattered through book.
*Hutchinson, Lincoln. "Oriental Trade and the Rise of the Lombard Communes," *Quarterly Journal of Economics*, vol. xvi, pp. 413–32. (1902.)
Hutton, E. *The Cities of Lombardy.*
Lodge, E. C. *The End of the Middle Ages*, chs. ii, viii, xxii–xxiv.
*Lunt, W. E. "The Financial System of the Medieval Papacy," *Quarterly Journal of Economics*, vol. xxxiii, pp. 251–95. (1909.)
Lybyer, A. H. "The Ottoman Turks and the Routes of Oriental Trade," *English Historical Review*, vol. xxx, pp. 577–88.
Machiavelli, N. *Florentine History.* (Everyman's Library.)
Nys, E. *Researches in the History of Economics.*
*O'Brien, George. *An Essay on Medieval Economic Teaching.*
Paetow, L. J. *Guide to the Study of Medieval History.* (Bibliography.) Part ii, ch. xxvi (Economic Conditions).
*Perrens, F. T. *La civilisation florentine du XIII^e au XIV^e siècle*, chs. i, iii.
*Pirenne, Henri. *Medieval Cities*, ch. i.
*Renard, Georges. *Guilds in the Middle Ages.* (Extremely useful, but material scattered, and no index.)
*Schevill, Ferdinand. *Siena — The Story of a Medieval Commune*, ch. iv.
Staley, E. *The Guilds of Florence.* (1906, London.)
Thorndike, L. *History of Mediæval Europe*, chs. xviii, xxxi, xxxii.
Villari, P. *The First Two Centuries of Florentine History.*
Williams, E. R. *Lombard Towns of Italy.*

CHAPTER IV

THE ECONOMIC AWAKENING OF NORTHERN EUROPE

THE WESTERN EUROPEAN LOWLAND

A GLANCE at a relief map will identify what geographers sometimes call the "Western European Lowland"; which includes western Austria and Czecho-Slovakia, most of Germany, Poland and the new Baltic States, Denmark and a strip of southern Scandinavia, the Netherlands, Belgium, England, and more than half of France (to the highlands of the center and southeast). In this territory now exists the most intensive economic development the world has ever seen. The climate is temperate but invigorating. There is an abundance of fine agricultural soil, with rainfall well distributed throughout the year. Timber and minerals are plentiful. The plain is practically covered by a network of navigable rivers, and it is exceptionally fortunate in the matter of harbors. This region is only one seventh of the area of Europe and less than one per cent of the land surface of the earth. Small as it is, it holds over a third of the world's cities of over one hundred thousand population and carries on an extraordinary proportion of the manufacturing and commerce of the world.

The Alps, Jura, Cévennes, and Auvergne cut this plain off from the Mediterranean or sub-tropic climate and rainfall area. Because of these natural features, transportation between the lowland and the Mediterranean region offered certain obvious difficulties before the development of deep-sea navigation or railways. The extreme southwestern arm of the plain, the Roman province of Aquitania and part of Narbonensis, reached the Mediterranean on both sides of Narbonne, and the lower part of the Rhone River was also serviceable. A considerable area in southern Gaul lay so near Mediterranean water that commerce by road was not pro-

hibitively costly. It would probably be a mistake to suppose that it was ever as populous as Italy in Roman times, or had an equal volume of commerce and industry. Nevertheless, the amount of manufacturing and the character of the trade in the southern half of Gaul show a sufficient economic assimilation to Rome to justify leaving it to one side in a discussion of northern European institutions.

East of present-day Germany, the western European lowland was divided from the great Russian plain only by a series of marshes of which the Pripet region is the core. There were passages between the two, though in early times they were used for occasional migrations rather than a stream of exchanges. Next to the Black Sea, Greek (later Byzantine) influence was hardly less important than that of Rome in southern Gaul.

The soil of northern Europe is generally heavier and richer than that of the Mediterranean region. Extensive cultivation of grains is more feasible. The climate, situation, and soils dictate a very different method of exploitation. Thus, while all the European peoples we have to deal with arrived in the continent early, and very likely resembled one another a good deal culturally in remote times, there was much besides the influence of the ancient Near East upon Greece and Rome to drive southern and northern tribes apart institutionally.

PEOPLES

The three major groups of people we have to deal with in northern Europe are, taking them from east to west, the Slavs, Teutons or Germans, and Celts. All three peoples contain various mixtures of physical characteristics. When the southern peoples became sufficiently interested in them to begin writing the meager accounts we have, all three herded most of the domestic animals now found in their lands, raised some grain, and knew how to work metals, including iron. The heavy plow which they found adapted to their soils turned the furrow over, and was commonly provided with an

iron shearing edge. This was one of the reasons why their cultivable plots tended to be long and narrow — in the form of strips — rather than square or rectangular, as in the Mediterranean region, where the light plow merely stirred the looser soil and cross-plowing was necessary. Which of the three peoples originated this implement is not known. The Germans usually get the credit — presumably because the modern German historians made the first bid for it. One French historian says they got their plow from the Slavs. In the total absence of primary evidence, it would be quite as reasonable to lay our guess with the Celts, who plowed more extensively than either of the other groups at the period when we first catch sight of them. From four to eight oxen were required to pull this plow.

Grains were cultivated by both Celts and Germans in Julius Cæsar's time, most extensively by the Celts. The chief occupation of both was grazing; and both eked out their food supply by hunting, fishing, beekeeping, etc. Commerce, industry, and town life had also made considerable beginnings among the Celts of Gaul, who used money extensively. The Celts had, in particular, developed a thriving textile industry in the making of sails and linen clothing, and an important glazing industry. Their commercial relations with the North were extensive and their shipbuilding art highly advanced. The Celtic ships which plied along the Atlantic coast were among the largest the world had seen at that time.

Primitive life had evidently been on the basis of blood kinship, but, under pressure of increasing numbers and social complications, accompanied by the accumulation of property and the growth of trade, clan and tribe were losing their family characteristics at the time when the Romans appeared on the scene. Contemporary writers asserted that there was no private property in definite pieces of land among the Germans as yet, though there appears to have been considerable among the Celts. Such ownership becomes inevitable only after a scarcity of the best land is felt, an ap-

preciable amount of labor is permanently invested in the arable plots, and, apparently, after an exchange economy has come in to a considerable extent.

Kinship bonds were still too strong to permit of any hard-and-fast stratification into social classes, but there were already some chiefs, and even a few individuals whom the Romans regarded as kings. The distinction between serfs, free tenants, and free proprietors was not rigid, or the barriers impassable. All had to pay food tribute for the maintenance of chiefs and kings, but there was no coherent set of traditional services which one class had to render to the next higher.

THE AGRICULTURAL COMMUNITY

Unfortunately for succeeding generations, what is most commonplace and familiar frequently goes unrecorded, because it does not stir curiosity or appeal to the imagination. Not only the Celtic community, with which many a Roman came into daily contact, but as well the mediæval estate or manor at its height, are subjects of great mystification for just that reason. While the social and economic institutions of the Celts within the imperial colonies presented to the Romans only a prosaic, detailed, practical problem of administration, Germany was quite a different matter. The Germans were a half-barbarous, unconquered foreign people, whose exuberant vitality required the presence of many legions on the frontier. In the nature of the case they elicited interest, comment, treatises. Of a number of works on the Germans known to have existed, the only one which has survived anything like intact is Tacitus' *Germania*.

In this rather slight, obscure, and controversial book, the historian anticipates the eighteenth-century fashion of insidiously attacking what he considers the weak spots in his own civilization by contrast with a foreign one. For example, the supposed rigidity of German family ideals, though in keeping with the kinship basis of their society, is used as an invidious contrast with the upper-class laxity at Rome.

Probably Tacitus never visited Germany, and the serious works [1] of those who did have perished. Hence we have to rely upon a considerably garbled version of one secondary though contemporary source, and various fragments from other pens, checked up by survivals in a much later period and especially by various codifications in Latin of Germanic laws. These codes were written down centuries later and show Latin influence. As to early Celtic society we are in a worse position still, through the want of even a work like that of Tacitus, or of systematic codes, and because of the effacing influence of both Roman and Teutonic invasions. Concerning the early Slavs, there are fragments from Arabian and Greek writers, and the Nestorian or Kiev chronicle.

Herding in a cold region like northern Europe demanded some fixity of life. Hay was needed to tide the stock over the winter, which meant meadows as well as pasture land. The growing trend toward grain fields as a source of livelihood was evidently due to increase of population as well as to the penetration of South European ideas. Meadows continued to be most vital to community existence, and were considered more valuable than tillable plots even at the height of the middle ages. Until land scarcity began to be felt, a field for temporary cultivation could be marked off in some convenient part of the pasturing grounds. When it grew infertile as a result of repeated grain crops, it could be allowed to revert to pasturage and a new one plowed.

According to Cæsar and Tacitus, the old Germanic custom of redividing the meadows yearly among the villagers applied to the cultivated patches also. The allusions to this are only casual, and it may be that fixed tenure by individuals had already appeared in some places. The Celts were economically much more advanced. Summer pasturing grounds on the mountain slopes were still owned by groups, not by individuals; but personal landowning was beginning to be a force in the permanent farming settlements, where considerable improvements upon the land had been made.

[1] For example, those of Pliny the Elder and Livy.

Agriculture had reached such a stage among the Celts of Gaul that Cæsar was able to requisition grain in quantities, and he mentions professional traders.

The practice of yearly redistribution of lands continued into the manorial period of the middle ages only in the case of meadows. Sometimes lots were drawn by villagers, but it was also common to arrange a system of rotation by families, the object probably being equal chances at the desirable plots and a rough adjustment of the amounts to the number of stock. Yearly reapportionment of the *tilled strips* proved impracticable, however, and was abandoned in favor of permanent tenure when agriculture became relatively important.

Of course the villagers did not change their land system all at once. One of the open fields would contain a number of subdivisions or "shots," whose size and shape varied with the lie of the land. Each shot was cut up into strips, a common size of these being an eighth of a mile long by four rods wide, containing an acre. The obvious way to preserve equality without shifting peasants about annually, taking turns at the good, poor, and mediocre land, was permanently to assign each family a number of strips in various parts of the field.[1] These scattered holdings were little if any more difficult to till than compact ones would have been. Farming was necessarily coöperative anyway, since each villager would own but one or two oxen, while plowing required from four to eight. Harvesting by hand was best done in groups, taking the strips as they got ripe. For each to reap only his own grain would have kept much of the labor idle waiting for crops to ripen, or after cutting. This was equally true of the hay, and of course the labor of herding was most economically managed by the whole village.

Laying aside for the moment the changes in Gaul due to direct Roman influence, we see the pressure of numbers in

[1] Judging from modern open-field farming in eastern Europe, it was particularly desirable for each family to have some of each different *kind* of land. The "value" depended upon the season — if wet, dry, early, late, etc.

Germany become more intense, due to increase in population, the advance of Slavic tribes from the East and a partial check to westward expansion because the Gallo-Roman lands were already peopled. The German village or *Mark* was slowly transformed. The most desirable sites were taken up. It was no longer possible to move about freely in search of meadows and pastures, or carelessly to abandon a tilled field when it became infertile. A denser population can be supported by agriculture than by stock-raising, so in the mixed system the emphasis gradually moved from animal to plant culture. The village groups settled down to a system whereby the same ground could be used over and over.

It was found that a field could be cultivated indefinitely, provided it was plowed and cropped only every other year. During the alternate years when it was recuperating from tillage, the field could be used to some extent (between plowings) as pasture, and the droppings of the stock helped to fertilize it. This meant two permanent arable fields, one farmed and the other fallow or idle during any given season. The two-field village which thus appeared had its permanent meadow lands, pastures, and forests, besides certain waste areas such as marshes or rocky hillsides.

The three-field system was similar, except for the additional field. In this case each field was cropped for two successive years and allowed to lie fallow during the third. This system involved tillage two thirds instead of half the time, and was adapted only to the richer lands. It was not found necessary except where and when the population had become fairly dense. A typical three-year cycle of crops for a given field would be winter wheat or rye, followed the next year by a spring crop such as oats, barley, or peas, and fallow during the third year. Due to the fact that the three-field allowed of more intensive use of the land than the two-field system, economic historians have often assumed that the three-field system became well-nigh universal in mediæval agriculture at its height. As a matter of fact, as Professor Gray has shown, the two-field system seems to have been widely re-

tained throughout the middle ages. Whatever fraction of the land was available for cultivation during any given year was commonly divided into two parts, one for fall and one for spring crops.

This over-simplified synopsis of agricultural evolution would carry us at a bound over into the tenth century in northeastern and northern France — to a still later time in England and Germany proper. It is significant that the mediæval type of village organization, commonly known as the "vill" or "manor," reached its growth in regions invaded by the Germans, not on their homeland. Hence it cannot have been purely a product of the gradual evolution of the early Teutonic village. It did not take on the characteristics by which we recognize it until the Roman occupation had come and gone. Yet it never became general in southern Gaul, where the Roman influence was paramount. In Brittany, which remained Celtic, there were scattered estates which might be called manors, but system and uniformity were absent. Parts of western England and Wales, likewise Celtic, never became really manorial. Thus the manor was neither a Roman or Gallo-Roman development, nor purely German. Great patches in the heart of Germany never developed it, but passed from their primitive community organization to a system of individual, allodial holdings. Still less prevalent was the manor and the feudal organization of the upper classes which usually went with it in the Scandinavian lands, where the population was closest of all to being purely Teutonic. The early villages of northern Europe seem to have been far more alike than was at first supposed, and the definite manorial organization came much later.

The generalization which seems nearest to including all the facts is that there was never any real manorial *system* at all. There were individual manors under their petty "lords." Sometimes a number of them, grouped or scattered, were under a single lord, ruler, or corporate entity such as a monastery. Where there was any genuine system, binding the

units of a wide area, it was feudal. The geographical setting in which the feudal land system grew up, and the economic and social materials out of which it was built, are necessary parts of its background; but the vital thing is the actual situation under which all these factors shaped themselves in a new way.

EFFECTS OF THE ROMAN OCCUPATION

It must be borne in mind that the Romans occupied only the western edge of the great European lowland discussed above. Except for the regions near the Mediterranean, the picture we get of Gaul, the Low Countries, and Britain under the Roman Empire is that of a frontier country. Stock and the products of extensive agriculture were plentiful. Many of the upper-class colonists lived sumptuously on great country estates with finely built houses and elaborate grounds. Luxury goods were sufficiently light and valuable to be freely transported to these northern regions. As in all newly developed countries, once they were opened up and settled, life was comparatively easy. Surplus animals, grain, raw materials, and even many manufactured articles flowed to Rome. Full economic assimilation to Rome was of course increasingly difficult as the distance northward added to transportation costs and cut down the interchange of heavy or cheap articles.

Rome's success as a colonizer was due almost as much to her amazing tolerance of the customs, whims, and prejudices of subject peoples as to organizing genius. The provincial governments of the period of greatest progress shut their eyes to everything but the essentials: taxes, defense, exports and imports. Local laws and customs were not interfered with unless in direct conflict with well-established principles or with some immediate aim. Hence the amount of deliberate Romanization of outlying territories was the minimum consistent with practical administration.

Towns, camps, and some main roads were built in the Celtic northern fringe of the Empire. Many villas or estates

of the Roman type were established, and the Government viewed them favorably. It goes without saying that they were not identical with villas in the Mediterranean region; climate, soils, and situation were different, and much of the experience of the natives was too valuable to be ignored. Around these great estates was a multitude of small holdings, both personal and, in the outlying regions especially, of the more primitive village type. Considering the length of the occupation, it is safe to assume that coöperative tenure suffered heavily from the inroads of Roman ideas about private property in land. Even on their villas the Romans were naturally cautious and practical about revolutionizing the tillage system. The heavy plow of northern Europe was much better adapted to its soils than the lighter southern one. This cumbersome furrow-turning implement carried with it the fundamentals of the strip arrangement of fields, which in turn involved a vast number of other details. Taken together, this fabric of surviving practical habits entailed the survival of a large part of the North European economic and social inheritance.

Beginning with the third century A.D., the Government became more bureaucratic and intolerant. It tried to break up old customs and inaugurate new ones in ways which proved expensive, irritating to its subjects, and damaging to its prestige. Many of its disasters date from that time. There is some evidence of an attempt even to break up the open-field strip system of northern Europe, substituting enclosed rectangular holdings which did not follow the lie of the land, and a rigid type of tenure which all the schoolmasters and legionaries of Rome could not have imposed. Administrative genius seems to consist largely of an infinite capacity for picking out essentials and basing organization upon them, for avoiding friction by ignoring whatever is not directly linked with the main object.

The Roman desire to keep together units for taxation may even have retarded the growth of widely distributed private property in land in northern Europe. In Germany, not

actually under the thumb of the new Roman bureaucracy, the primitive communes tended to break up into individual freeholds.

In the British Isles, the chief practical result of Roman rule was to remove, depress, replace, or win over the natural leaders in Celtic society. The thin carpet of Roman institutions prevented the Celtic base from matching the growth of population and economic prosperity with the necessary increase in social integration and capacity for defense. When the showy Roman surface was rolled up and removed early in the fifth century, the natives were left an easy prey to the Picts, Saxons, Jutes, Angles, Frisians, and Danes. Many of the Britons fled to their brethren in northwestern Gaul, which was named Brittany after them. The Celts who remained were reduced to something like their earlier pastoral and agricultural mode of life. The institutions of the invading Anglo-Saxons and other German tribes could not have been so different as to raise any great problem of readjustment.

Two centuries of attempts at centralization and meticulous regulation on the part of the weakening central Government in Italy only served to emphasize the differences between the Mediterranean region and northern Gaul. Provincial governors became practically independent. The bailiffs on the great estates took local law enforcement and interpretation largely into their own hands. Unable to prevent the occupation of the lower Rhine country by the Franks, the Roman Government saved its face by calling them "allies," and authorizing them to rule the country as far southwest as the Somme River. Syagrius, son of a Roman officer, ruled the remainder of northern Gaul, from the Somme to the Loire, from 464 to 486, when he was defeated and killed by the Frankish Clovis (Chlodwig, Ludwig, Louis). Syagrius' connection with Rome had been purely nominal, and he had been known locally as the "Roman King of Soissons." So northern Gaul and the Rhineland became "Frankland" with a German king. Roman rule at the last was such a mixture

of incompetency and oppression that many went over voluntarily to the Germans, as the lesser of two evils. Only the great estates were able to protect themselves or retain any degree of prosperity. To the excesses of invading German soldiery were added the turbulence and brigandage of the lower classes of Gaul itself, reduced to desperation by the general disorder and destruction, uncontrolled by any orderly government.

ECONOMIC EFFECTS OF THE GERMANIC INVASIONS

The purely destructive aspects of these invasions need not detain us long, though they are moving and dramatic. In spite of the Slav advance which pushed the Germans westward to the Elbe, the readjustment in the heart of Germany lacked many of the factors which made it so turbulent farther west. The Roman influence upon Germany proper had been less direct, and the evolution of institutions had been slower, more natural. There was less to destroy. Simply organized agricultural regions always accommodate themselves more readily to sweeping changes in conditions than do societies with a denser population, more dependent upon accumulated goods, industry, and exchange. Moreover, the invaders of Gaul were aliens, largely cut loose from their accustomed social moorings.

There was likewise less to destroy in Britain than in Gaul. The Anglo-Saxon invasion of Britain was so overwhelming that it amounted to a transplantation of Germanic institutions [1] rather than a long and tedious conflict, followed by the necessity of starting over with disharmonious fragments of peoples and ways.

Gaul suffered most. Life was cheap and the enormous loot of a disintegrating civilization fell to the strong. Of the one hundred and twelve places in Gaul which the Romans classified as cities (*civitates*) and a large number of fortified camps (*castra*) — some of them practically towns — the majority

[1] And the revival of Celtic ones — where these were not too deeply overlaid with Roman ones, the amalgamation was not too difficult.

disappeared. Modern France has over five hundred cities, only about eighty of which can be traced to either *civitates* or *castra*. Nor does this represent the sum total of the havoc of the early middle ages; for it was often the important places which were overwhelmed, and many of the greatest urban centers of to-day did not exist in Roman times.

Not all this destruction can be directly charged to the Germanic invaders. It is true that the earlier groups were agriculturists, and had no use for towns. It is likewise true that the very sites of some good-sized Roman places are unknown to us, so complete was the effacement. Yet from this we must not jump to the absurd conclusion that the Germans went to the labor of tearing down cities and plowing over the sites out of sheer perversity — or at all. A fortified camp lost its excuse for existence with the disappearance of the Government whose garrisons were to be sheltered. Likewise, the collapse of the fabric of trade which centered in Rome left many a provincial commercial city high and dry — to be deserted because a living could no longer be made there. Furthermore, much of the industry of Gaul had been for military consumption, or of the nature of luxuries for an upper class which could no longer maintain itself. Great aqueducts, baths, amphitheaters, and other like constructions were of use only to the concentrated urban populations which the imperial system supported or made possible. Once these people scattered out upon the land to make a living under new conditions, the need for building stone and the wear and tear of time removed many a relic of Roman times as completely as it could have been done through deliberate design.

For a time rural economic life seemed to be going in the same way toward destruction. Large stretches of land actually went out of cultivation, and some localities which had previously been populous became entirely uninhabited. Naturally, the communities which had produced grain or raw materials for export suffered most from the drying-up of town life and trade. Hardly less lethal was the blow to the

wide suburbs, half urban, half rural, which had stretched out from many of the towns. They now disappeared, the stone of the structures being used in many cases for building impregnable walls close in to the withered towns. The specialized truck gardens became what they had been centuries earlier, general farming units, producing most of the necessities of life.

Such economic and social order as existed varied greatly from one region to another, each different people living under its own law. Sometimes various races were represented in the same locality. Nevertheless a Frank or Burgundian lived under his own tribal law, a Gallo-Roman under the barbarized code of the Roman law. The impersonality, equity, and uniformity of the Roman legal system thus vanished from the land, and any considerable commerce or accumulation of property became impossible.

Roman centralized administration and money economy had favored the growth of individual enterprises, even in agriculture, at the expense of the coöperative village system native to northern Europe. With the disappearance of money and efficient central government, a tendency in the opposite direction set in. The advantage now lay once more with the type of organization which could produce locally practically everything essential to life. There was an inevitable consolidation of the smaller freeholds into larger units which could sustain and protect themselves. These larger units were not like either the freeholds or the villas which had immediately preceded them. For purposes of cultivation they were composed largely of peasant villages, reduced to a tillage system very much like that of pre-Roman times. Superimposed upon this revitalized groundwork of North European village agriculture was a new fabric of upper-class government which departed radically from anything either primitive or Roman.

THE ROOTS OF FEUDALISM

A modified form of the German *Gefolge, comitatus*, or

voluntary war-band had been adopted into the decaying Roman Empire, which had used German soldiers under the military chiefs who recruited them. This *comitatus* had been considerably affected by long contact with Rome, both within the Empire and outside. A very good picture of it is given in the Arthurian legends. Younger or lesser warriors were armed and maintained by their chief, commonly living under his roof. Their equipment was provided by him, and reverted to him upon their death.

When German leaders finally secured control of the Western Empire in the fifth century, their *Gefolge* or immediate followers became a sort of special official class. They acted not only as royal bodyguard, but also as special commissioners and messengers to supervise the administration, as tax-collectors and the like. As special royal representatives, they were exempt from ordinary jurisdiction. Many of them were granted separate estates, retaining a seat in the King's hall. But the organization of the *comitatus* was to prove incapable of such extension.

In the decadent days of the Roman Empire, it had become common to hand over estates to monasteries or lay magnates, who allowed the previous owners to use them for life but retained the title. This transaction was covered by a written contract, and the holding was called a *beneficium*. Side by side with this was the *præcarium*, a holding to which the user had no legal or contractual right.[1] Theoretically, at least, such "precarious" tenure might be cancelled and the tenant expelled at any time.

The Frankish kings were used to a simpler social order, and did not realize at first that the personal ties of the German *Gefolge* were too weak to hold together a society with considerable property. They cherished the vague delusion that they were emperors after the Roman manner, not comprehending that the decay of the Roman fiscal system had removed the economic foundation of such an organization.

[1] Not even for life (without the right of transmission to heirs) as with the *beneficium*.

Money had largely disappeared. Taxes could no longer be collected for the maintenance of the necessary administrative and military personnel. Instead of supporting the kings who had raised them to power, the noble and clerical classes tended to combine in resisting the Crown. When the Merovingian kings had given away their available lands without even the protection of *beneficium* contracts, they became mere puppets in the hands of their mayors of the palace. The mayor was simply the chief royal steward and manager of the privy purse.

This economic office became hereditary in the Pepin family. Charles Martel, an illegitimate son of one of the Pepins, gathered men and resources to establish himself as mayor, to beat back certain ruder German tribes, and finally to meet and repel the Moorish invasion near Poitiers in 732. He seized this occasion to repair the early Merovingian blunder which had alienated so much land without proper security. Many estates, particularly ecclesiastical holdings, were confiscated to raise cavalrymen to meet the Moorish emergency, and regranted to followers only as benefices, subject to taxation, military service, and withdrawal by the Crown. The Pope naturally protested, but an amicable settlement was reached, thanks in part to Rome's need of protection against the Lombards. Charles Martel's son, Pepin, deposed the last Merovingian king with the Pope's permission, and founded a new dynasty of Frankish rulers known as the Karlings or Carolingians after the most outstanding figure, Charlemagne (Karl the Great).

Louis Halphen and other scholars have recently called attention to the exaggerations of earlier writers [1] in dealing with the supposed Carolingian revival of prosperity. It was natural enough that Charlemagne, who was given the imposing title of *Imperator* in 800, should be erected into a figure of mythical grandeur, and that this romantic eminence should color even economic treatises on the period. The various wars and conquests of this dynasty and the restora-

[1] For example, Inama-Sternegg, *Deutsche Wirtschaftsgesichte*, vol. I.

tion of somewhat more than a fiction of central government may have done something to arrest a general economic decline which continued to about the tenth century. Real and lasting material progress, however, was not destined to come from attempts to revive the Roman Empire in the West, but rather from a settling-down of the western peoples to work out their own institutions and destiny. Byzantines and Saracens now firmly held the eastern Mediterranean region, the richest part of the old Empire. Most of Spain and all of the African lands were detached, and Italy retained hardly a shadow of its former economic greatness. The capital of Charlemagne's state was the German city of Aachen, and the forces back of it were rather German than Roman. The great impetus for commercial revival was to come later from the Northmen.

Feudalism, which has been aptly defined as "confusion roughly organized," was not as yet completely established at Charlemagne's death, but progress had been made in that direction since the reorganization by Charles Martel. The Church had added to its holdings through pious gifts, reclamation, and otherwise, until it held something like a third of the land. This was only one aspect of the growth of large estates and the eclipse of the small freeholder. Revenues from estates had to be largely in the form of services and entertainment because of the scarcity of money incident to such a society. The military and court services were so onerous to freeholders that they often gave up the struggle and commended themselves to the clerical or lay holders of neighboring great estates. Thus the small holder came to work or pay instead of fighting, and the group gave up its armed force in an age when armed force was the decisive factor. Charlemagne was not aiming at feudalism, to be sure, but at a strong central government. The thing which ap parently decided the trend of events was a new series of Teutonic invasions in the second half of the ninth century. The invaders, called Northmen in France and Danes in England, were distinctly inclined toward seafaring, trade, and

town life, in contrast with the earlier Germanic farmer immigrants. Seafaring and trade included what we would now call piracy. A period of almost complete anarchy ensued in the Frankish lands west of the Rhine.

In the midst of these new invasions, we find the first documentary reference to a *feudum* or fief. A fief partakes of the nature of both *beneficium* and *comitatus*, with the element of heredity added. Like the warrior of the *comitatus*, the vassal must swear personal loyalty and support, the initiation ceremony being called "homage." As in the *beneficium*, a piece of real property or a concession is involved. Unlike either, the fief, with its privileges and obligations, descends from father to child under most elaborate conditions supposed to reiterate the rights of the grantor and to guarantee a continuance of proper performance of the service. For instance, the overlord has rights of guardianship over a minor heir, and must be consulted about a husband for a female heir.

THE FEUDAL LAND SYSTEM

The French vill or manor now swiftly assumed its definite characteristics. During the tenth century most of the land of northern France which had so far escaped was brought under the dominion of the feudal vassals or fief-holders. Theoretically, each village and each piece of land must have its lord (*nulle terre sans seigneur*). In practice, some land escaped, though not much in northern France. Villages which were already coöperative simply had lords superimposed upon them and became manors. Smaller hamlets of similar type became tributary to manors. Many of the lesser freeholders were reduced to ordinary villagers or villeins, owing labor dues and dues in kind to the lord. At the outset, some of the most important freeholders were able to become petty lords, with serfs of their own. The rest were incorporated into manorial villages sometimes as "freemen" — not actually free, in our sense, but still exempt from some of the more onerous dues, fines, and disabilities of ordinary

villeins (serfs).[1] At the bottom of the scale were the cotters, who did not have even enough land to maintain a single ox for plowing, and thus had to work for the other classes, for the village agricultural enterprise as a whole, or for the lord.

Manorial organization will be discussed in a separate chapter. From the standpoint of feudal government, the manorial units were arranged to support the noble and knightly class which did the fighting. For example, in a region where thirty strips constituted the standard virgate or holding of a single villager with two oxen, four virgates (one hundred and twenty acres) might be the average hide or unit for taxation, and four hides a *scutum* or knight's fee — the amount necessary to maintain a properly equipped fighting man. It would be misleading to give any figures as "average" for the entire feudal land system. Conditions varied greatly from one region to another. Some small manors maintained only one fighting man; some large ones a great many.

French society became stratified in theory into the noble class which fought and governed, and the ignoble class which worked. Personal cultivation of the soil was considered a servile occupation, and a peasant was not allowed to bear arms.[2] Between the most prosperous cultivator and the lowest noble, with a few peasants, a pittance of land and tiny castle not unlike a modern barn, a social gulf was fixed. One was noble, the other common. The theory "no land without its lord" was never completely realized in practice, however; there were always some allodial or non-feudal holdings.

The final step toward establishing feudalism, with its dependent and supporting manors, in England, was accomplished by the invading Normans, after 1066. England was more strictly agricultural than northern France at the time. The removal of the Roman superstructure down to the primitive agricultural villages had been more complete, and the influence of the early Germanic agriculturist invaders had

[1] French writers commonly use the word "villein" (*vilain*) as a term simply for villager, and distinguish between "free villeins" and "serf villeins."

[2] As a rule; in some cases, non-noble freemen were carried away to war, though rarely as actual soldiers, in full armor.

been in the same direction. Nevertheless, the Domesday census which the Normans took shows that there were many freemen, as in Germany proper at the time. The status of a "freeman" in Normandy was much less enviable than in pre-Norman England, and this class generally lost social standing as a result of the conquest. A considerable group at the bottom of the social ladder was interpreted by the Norman census-takers as slaves.

William and his successors on the English throne deliberately avoided some features of French feudalism which they regarded as inimical to their own interests as rulers. They favored scattered rather than compact fiefs, making it more difficult for the great nobles to combine in resisting the Crown. In France, the *immunity* of certain great lay and clerical vassals from the visits of royal tax-gatherers, judicial and administrative officers — which had been purchased or wrung from the Crown at critical times — had made no end of trouble. Profiting by this experience, the Norman rulers of England side-stepped the granting of any such immunities, and forestalled the growth of local independence by the establishment of an elaborate system of royal courts. To maintain the authority of the central Government, the English kings discouraged and finally forbade sub-infeudation — that is, the sub-vassals were obliged to do homage to the King direct, over the heads of their immediate lords. The Crown was thus able to play the lesser nobles against the greater, and eventually the upper strata of commoners against both.

Feudalism spread very slowly into Germany, which never became feudalized to anything like the extent noted in northern France. The conversion of the great German "nations" — Franks, Swabians, Bavarians, and Saxons — into duchies before Charlemagne's death had been more spectacular than real or permanent. Ninth-century Germany had a solidity of which France could not boast. The Germans resisted the invasions of the Northmen which destroyed central government and set up feudalism in France.

The great German duchies which emerged from the ruins of the Carolingian Empire were led by their old nobility. Ducal and, later, royal authority rested upon a considerable body of freemen who cultivated their own fields, and there was no such disintegration into petty sovereignties as in France. The benefice was practically unknown in Germany. The "counts" were mere local officials of the Government, and even the "vassals" were not feudal, being as yet largely without fiefs. Vassalage in France was primarily a military relationship, whereas in Germany it remained chiefly economic until the twelfth century. Feudalism gradually appeared on the French border, as in Lorraine and Burgundy, but its power as well as its spread was checked by the presence of counts, bishops, and counts-palatine, strictly royal officials.

Due to the futile attempts of the German "Emperors" really to govern Italy,[1] and to accompanying civil wars in Germany itself, the royal power was greatly weakened. It finally collapsed in the middle of the thirteenth century. After the fall of Henry the Lion in 1181, the failure of the German mediæval attempt to establish a limited, federal monarchy was apparent. Feudal disintegration set in rapidly. Petty nobles, instead of dwelling among freemen as leading citizens and neighbors, began in earnest a manorializing program which dispossessed the freemen in many parts of Germany and introduced a serfdom much like that of northern France. Wooden country houses gradually gave way to crude imitations of the French stone castle. Still, German feudal society did not take on the rigidity of the French. Primogeniture, so essential to the systematic descent of fiefs intact, never became universal. Sub-infeudation, unlimited under French law, began late in Germany and did not progress very far. This is likewise true of the enrollment of public offices. Private warfare had become so common in France by the middle of the eleventh century that the Church found it necessary to impose the "Truce of

[1] Mentioned in the preceding chapter.

God." This forbade fighting from Thursday until Monday of each week or during any Church festival, thus leaving only eighty days in the year available for warfare. Henry III of Germany resisted its introduction into his domains on the ground that it was unnecessary, the central Government being able to maintain law and order. It was only after the beginning of the disorders accompanying Henry IV's struggle with the Papacy and civil wars at home that the "Truce" was extended to all Germany in 1085.

Serfdom finally became general in southwestern Germany, including the modern states of Baden, Würtemberg, and Bavaria. A bewildering array of local laws and customs sprang up, tending to reduce freemen to serfs. Primogeniture was not the rule, and the estates became minutely subdivided through inheritance. Northwestern Germany, including Westphalia and Lower Saxony, resisted. As late as the battle of Bouvines (1214) we find Saxon free cultivators fighting in the army of Otto IV, much to the astonishment of the feudal cavalry from Swabia and Lorraine. The road from Italy to northern Germany via Augsburg and Nuremberg passed this way. This, together with the nearness of the Hanse cities, the Rhine and the commercial towns of the Netherlands, created an economic setting which impeded, though it could not entirely stay, the advance of serfdom. Dutch colonization also affected northwestern Germany. That the large estates remained generally intact was less a matter of inheritance customs than it was the product of a system of leasing for life (*meierrecht* tenure) which became peculiarly prevalent in this region.

Early resurgence of commercial and town life in the Low Countries profoundly affected agricultural organization. This region shared in part the French disorders of the period of Norse invasions. The rise of towns and the growing convergence of trade routes from Italy, through both France and Germany and by sea, from the Baltic, and from England upon the Netherlands, early loosened the feudal and manorial units which had grown up. More than in any other

part of northern Europe, economic life resembled that of Italy. Many of the lords lived in the numerous towns, which were so close together that even a considerable fraction of the peasantry lived in them rather than in villages. There were special laws for the protection of serfs, whose status was the most enviable in Europe. Freemen were numerous. They were subject to various taxes and dues, but enjoyed freedom of movement. Out of this class in the agriculturally overcrowded Netherlands came many colonists who pushed their type of tillage eastward and southeastward into Germany proper. Vestiges of their settlements are found all through Germany, even east of the Elbe, where the Germans were gradually forcing the Slavs back. They had early discarded the open-field system with its scattered strips, communal meadows and pastures and joint tillage, and each man farmed his own acres to suit himself. The Germans particularly esteemed Dutch colonists for marshy regions or next to rivers or seas, where conditions were similar to those in their homeland.

Summarizing in a few words: The feudal land system, with dependent manors, appeared in northern France and on the borders of Germany. The Normans transferred it with few changes to England. It also spread gradually eastward and, to a less extent, southward, but rarely remained intact. The expansion by slow degrees and the encounters with conflicting institutions modified the system profoundly outside of northern France and England, giving it a mixed and variegated character. So far, we have dealt with the manor or typical estate only as an incidental feature of the feudal system. It will be taken up technically as an agricultural institution in the next chapter.

THE RESURGENCE OF TOWN LIFE

The most important survival of Roman rule was perhaps the memory of certain comforts and luxuries, and the continued desire for them. Oriental goods never entirely ceased to reach the great clerical and lay magnates of northern

Europe via the Mediterranean towns. Early mediæval writings are strewn with allusions to such articles.

While the Roman craft associations (*collegia*) disappeared from Gaul, practically if not completely, vestiges of the craft skill itself remained. Gaul had been a Roman province of great commercial and industrial importance. Industry was continued or revived in the great monasteries, and on some of the large estates. Some of the larger monasteries were practically towns. The Abbey of Saint Riquier had about ten thousand inhabitants in the ninth century. Artisans were settled in certain streets according to occupation. Records remain of wholesale merchants, smiths, shield-makers, saddlers, bakers, shoemakers, butchers, fullers, furriers, wine merchants, and beer-sellers. Eleventh-century records of Saint Vincent at Le Mans mention also carpenters, goldsmiths and silversmiths, tailors, drapers, leather merchants, salt merchants, glaziers, and weavers. At least this latter case is late enough to represent more than a vestige of Roman industry. The Italian towns were already commercially and industrially active by this time, and some of the great fairs had been established.

On the great estates there were groups of buildings given over to industries, suggestive of the central shops of antiquity. Another reminder of ancient times was the *gyneceum*, a special group of buildings in which the women worked. In some cases a score or more were employed, chiefly in the making of cloth and garments. The lord's wife was supposed to supervise this work. Instead of the freemen and slaves of earlier times, the majority of the craftsmen were serfs — half-free.

Charlemagne had issued elaborate capitularies telling how industry, as well as agriculture, should be carried on, including the keeping of accounts. He had entered into commercial treaties with foreigners, reorganized taxation and justice, and it is recorded that he planned a canal to connect the Rhine with the Danube. He had seen the importance of urban life, hitherto neglected by the Germanic tribes, and

actually founded a number of towns, including Hamburg. This effort was not without permanent effects, though it failed as a whole, as we have noted.

It is clear from the records that the destructiveness of the Northmen who invaded France in the latter part of the ninth century was much exaggerated by the ecclesiastical chroniclers. The Northmen were a trading people, from the Russian lands to the Atlantic. The Annals of Saint Bertin (861) relate that peddlers and merchants as well as adventurers dogged the steps of the Norse armies, and there are numerous allusions in contemporary writings to their commerce. Doubtless a large share of their booty was sold soon after its capture. "Economic history in recent years," writes Professor Thompson, "has shown that the Norse invasions were the most powerful stimulus to mediæval trade before the crusades." This judgment of the eventual results of their incursions into France does not necessarily conflict with the common opinion of historians that the immediate and very general effect was the rise of feudalism as the only alternative to anarchy.

Mention was made in a previous chapter of the commerce of Chappes, near the modern Troyes, which is thought to have been a center for the importation of Levantine merchandise into northwestern Europe at least up to Charlemagne's time. This business was in the hands of "Syrians" —under which general title were confused Syrians, Egyptians, Armenians, Persians, Greeks, and other Near-Easterners. The place-name Chappes is the Greek *Kapêlos*, meaning "merchant," which became the Syriac *Kapîla* and the Latin *Cappas*. We lose track of Chappes about the time of Charlemagne, but after the Norse invasions had passed, the great Champagne fairs appear, notably at Troyes, some two miles from old Chappes. The traders now appear as "Italians." How much the personnel had actually changed in character is a matter permitting of skepticism or belief, but not of certainty. The iconoclastic split between Constantinople and Rome may have encouraged some residents of Italian

towns to seek citizenship for the first time, or even to Italianize their names. The growth in importance of these towns may have had this effect also, or that of actually shifting the business to native Italians, or both. Once the crusades got well under way, the Syrian members of Italian firms were generally transferred to the East, and Italians sent to the West.

After the conquest of England in 1066 by a group of Northmen which had been settled in France for a century, commerce between the new and old Norman lands assumed considerable proportions. Merchants from Rouen exported French wines, cloth, and arms to England, and imported wool and metals. Silks, wines, and fruits from the Mediterranean region found their way northward in quantities, and Barbary horses came in from Spain. Henry II of England (1154–89) got all southwestern France as a fief when he married Eleanor of Aquitaine. The English trade for the wines of this region remained important for centuries.

The first important extension of southern European commercial life into mediæval North Europe was through the great fairs. Originally, the fair was a temporary market (German, *Jahrmarkt*, or "yearly market") where people might come together from great distances to exchange goods, but where there was not a sufficient volume of trade to keep the market going the year round.

Tradition has it that the fair of Saint Denis at Paris was founded in the seventh century. As indicated by many of the place-names, fairs and markets were often started under the protection of religion. Worshipers would congregate at some famous shrine on the feast days of its saint. Almost from the first, people took advantage of this assemblage from widely separated districts to facilitate exchange of goods. The pilgrim was often a trader, and the trader became a pilgrim. The Church was generally able to protect the peace at these religious gatherings which grew into commercial fairs. The tolls which so seriously hampered commerce and travel were often remitted in the case of pilgrims. When

the pilgrimage had developed into a commercial fair, the tradition of peace, protection, and large exemption from fees was carried over. The lord of the fair, who collected taxes for its privileges, often went to great pains to secure protection, toll-exemptions, and guaranties of fair dealing for those who came to trade. Among these special privileges was the suspension of feudal or personal law, and the use by South European traders of a common-sense version of their highly developed commercial code, which gradually grew into the "law merchant," the "private international law of the middle ages." A detailed discussion of the greatest of these fairs, those of the Champagne, may be deferred to the special chapter on commerce and industry.

The most important historically of the North European commercial towns were those of the Low Countries. This region included roughly the modern Holland and Belgium, together with some territory to the east, south, and southwest which is now in Germany and France. The eastern part was in the loose German or "Holy Roman" Empire; the western remainder usually being in some sort of feudal relationship to the Crown of France. Both Dutch and Flemish are Germanic tongues, but there was (and is) a fringe of French-speaking Walloons in the west.

Under the Romans the Low Countries had been of little commercial importance, lying as they did on the frontier of the Empire. When the Franks removed the frontier of European civilization to a point far east of the Rhine, the natural advantages of this intermediate region between Latins and Germans quickly made itself felt. It was the very antechamber, as Pirenne remarks, of Charlemagne's palace at Aachen. Its rivers stretched inland in three directions, and on the fourth side was the sea, making it the gateway of England — later, as shipping improved, of the Baltic, North, and Mediterranean seas. The early beginnings in commerce, industry, and finance were swept away by the Norse invasions, but a newer and more permanent economic growth set in immediately. Liège, seat of a bishopric, re-

appeared in the tenth century. Utrecht and Cambrai, also bishoprics, and the commercial towns of Ghent, Bruges, Ypres, Furnes, Lille, Brussels, Louvain, and Valenciennes, besides many smaller places, date back to the tenth or eleventh centuries. Through the Champagne towns, the Italian movement toward urban autonomy had reached Flanders even before it had captured all northern Italy. Here in the North, the chief magistrates were commonly called mayors, rather than dukes or consuls. Both Valenciennes and Saint Omer had commercial gilds from the eleventh century, and others doubtless existed of which we have no record. These were at first protective organizations of caravans of traveling merchants, making the rounds of fairs and markets. They soon set up headquarters in the thriving towns and became important factors in the corporate urban life.

It may seem that a good deal of space has been given to a mere introductory mention of town life and commerce. A discussion of the manor at its height, such as the next chapter will attempt, would be likely, however, to mislead any reader who had not been adequately warned of the increasing stream of trade which flowed by the agricultural villages, penetrating them to some extent. The number of people engaged in agriculture in northern Europe was overwhelmingly greater than that of traders and craftsmen; but commerce and industry were far more powerful as factors for change than any such figures would suggest, if it were possible to compile them.

SUMMARY

These few pages have dealt with so many complicated factors, nearly always working several at once, and over so long a period, that it may be helpful to summarize the main points. The fundamentals of North European tillage outlived the Roman occupation and became the foundation of a new system whose vestiges are still visible. Those fundamentals were: the furrow-turning plow, the division of open

fields into strips, scattered holdings such as to give the actual cultivators a most unusual equality (probably due in part to the recent importance of kinship in social relations, and co-operative handling of meadows, pastures, and arable land) — the whole system being evolved in and especially suited to a situation where no strongly centralized government existed and there was relatively little use of money or production for distant markets. The Romans temporarily superimposed central government, town life, money economy, and considerable production for markets. Their rule stimulated individual enterprise and the growth of private property in land, including both freeholds and great estates of aristocrats. The collapse of this system affected the thick political and urban surface it had added to North European society more than it did the fundamental practices and ideas, many of which were actually revitalized by a return to conditions more favorable to them. During the Germanic invasions the population of Gaul declined — Professor Usher estimates it at five and a half millions in the ninth century, or more than a million less than at the time of Cæsar's conquest. The attempt to maintain or reëstablish a central government and an aristocratic class led to feudalism, a blend of Roman and German practices with elements added which were purely products of the times and conditions. The feudal land system spread from northern France into England and Germany. Northern Europe remained primarily agricultural throughout the middle ages, and it is important that its aristocracy lived mainly in the country, instead of casting its lot with the commercial towns, as in Italy. The towns of the Low Countries were more like those of Italy in this respect. Agriculture in this region also differed from that of neighboring ones, the manor being early and generally discarded in favor of individual exploitation.

SUGGESTIONS FOR FURTHER READING

Below, G. von. "Das kurze Leben einer viel gennanten Theorie," *Probleme der Wirtschaftsgeschichte.*

*Blok, P. J. *History of the People of the Netherlands*, vol. I, chs. III–XIV. (New York, 1898.)

*Boissonnade, P. *Le travail dans l'Europe chrétienne au moyen-âge*, livre I, chs. I, II, VI, VII, VIII; livre II, ch. I.

Brunner, H. *Deutsche Rechtsgeschichte*, vol. I. (Leipzig, 1906.) Scattered references to economic matters.

Calmette, J. *La société féodale.* Magnificent general introduction.

Dechelette, J. *Manuel d'archéologie préhistorique, celtique et gallo-romaine.*

*Ferrero, G. *Characters and Events in Roman History*, pp. 71–99.

Fustel de Coulanges, N. D. *Histoire des institutions politiques de l'ancienne France*, vol. I.

Halphen, Louis, *Études critiques sur la règne de Charlemagne.* (*Revue Historique*, 1917, now in book form.)

Haskins, C. H. *The Normans in European History.*

Hayes, C. J. H. *Introduction to the Sources Relating to the Germanic Invasions.*

Holmes, T. Rice. *Cæsar's Conquest of Gaul.*

Jullian, C. *Histoire de Gaule.*

Inama-Sternegg, K. T. von, *Deutsche Wirtschaftsgeschichte*, vol. I, 1909 ed.

Kluchevsky, V. C. *History of Russia*, vol. I, for early Slavs. (Vol. I of Mavor's *Economic History of Russia* is based on Kluchevsky, as is also, more strictly, Mr. Baring's *The Russian People*, London, 1911.)

Kovalevsky, M. *Die ökonomische Entwicklung Europas bis zum Beginn der kapitalistischen Wirtschaftsform*, vol. I.

Lamprecht, K. *Deutsches Wirtschaftsleben im Mittelalter*, vol. I. (Leipzig, 1885.)

*Lapsley, G. T. "The Origin of Property in Land." *American Historical Review*, April, 1903. Vol. VIII, no. 3, pp. 426–48.

Levasseur, E. *Histoire du commerce de la France.* (Paris, 1911.) Vol. I, early chapters, for origins of feudalism, town life, etc. Also vol. I of his *Histoire des classes ouvrières et de l'industrie en France avant 1789.* (2e ed., 1900.)

Lewinski, J. de St. *The Origin of Property and the Formation of the Village Community.* London, 1913.

Luchaire, A. *Manuel des institutions françaises.* (Paris, 1892.)

Myres, J. L. *The Dawn of History*, ch. XI.

*Pirenne, H. *Belgian Democracy; its Early History*, ch. I. (Manchester, 1915.)

Ross, D. W. *The Early History of Land-Holding among the Germans.* (Boston, 1883.)

Sée, Henri. *Les classes rurales et le régime domanial en France au môyen-âge*, chs. I–III. (Paris, 1901.)

Tacitus, *Germania.* Various English translations, e.g., *Translations and*

Reprints, University of Pennsylvania, vol. VI, no. 3. Also references to Cæsar. Completely analyzed in Ross reference above.

*Thompson, J. W. "The Commerce of France in the Ninth Century," *Journal of Political Economy*, November, 1915, pp. 857–87.

*Thompson, J. W. "German Feudalism," *American Historical Review*, April, 1923, pp. 440–74.

Thorndike, Lynn. *History of Mediæval Europe*, chs. III, V, VII.

*Usher, A. P. *Industrial History of England*, pp. 52–58.

*Vinogradoff, P. *Growth of the Manor*, especially chs. I, II.

*Vinogradoff, P. In *Cambridge Mediæval History*, vol. I, ch. XIX.

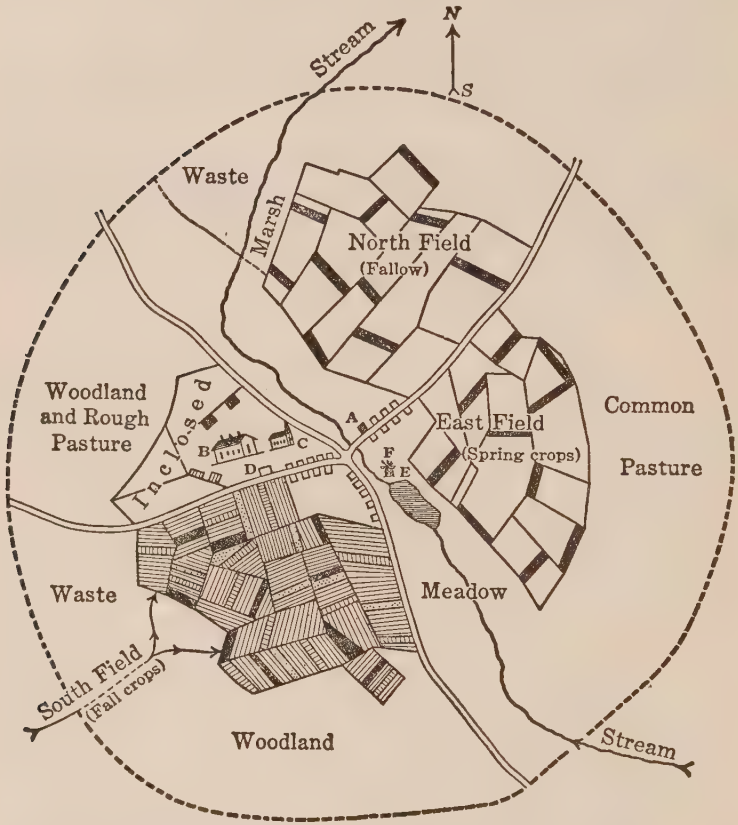
*Vinogradoff, P. In *Cambridge Mediæval History*, vol. II, ch. XX.

Waitz, G. *Deutsche Verfassungsgeschichte*, vols. I, II, *passim*.

Note: For the complete novice, the safest and most enlightening introduction to the moot question of the origin of the manor is probably the well-documented study of Lapsley, cited above. It is based chiefly on Kovalevsky, but the author makes many contrasts, and summarizes the most important contributions by German writers — for example, of the two Maurers. Boissonnade is soon to be issued in English by Knopf. It is an extremely useful book.

GROUND PLAN OF THREE-FIELD MANOR (*simplified*)

(A) is a messuage or village plot, with cottage and garden. The thirty strips of this same peasant, A, in the three open fields, are also shown in black.
(B) is the "Big House" or manor-house and outbuildings of the lord.
(C) is the village church, and (D) the parsonage or priest's cottage.
(E) is the pond, and (F) the mill at the lower end. The mill was often run by wind and located on high ground at the edge of the manor.



All the strips are shown only in South Field. Those of A, a villager, are black; those of the lord barred crosswise, and those which support the priest and church stippled. East and North fields would present a similar appearance; but all strips except those of our villager, A, have been left out to emphasize the scattering of his. Besides his strips in the open fields, the lord commonly had some inclosed areas or "closes," as they were sometimes called.

Suppose that it is May, 1250 A.D. On South Field, a crop of wheat and rye, sown last fall, is ripening. East Field has been sown this spring with oats, barley, and peas. North Field will not produce a crop this year, but is being used for pasture. Last year it produced a spring crop, and the year before a fall crop.

CHAPTER V

THE MANOR

PHYSICAL APPEARANCE

THE diagram on the opposite page is intended to convey some idea of the arrangement of an open-field village as it would appear to an aviator, flying several thousand feet above it. Such villages still exist in many parts of eastern Europe. They are no longer manors, but only the resisting physical shells of an age-old agricultural system which served its purpose well, but has at last outlived its usefulness.

In the center is the village, consisting of rows of thatched cottages with tiny gardens attached, on either side of a main street — in this case, a few on a side street. There were no village stores in the middle ages. The population consisted of peasants, and houses in the open country were very rare: that is, a village was simply a compact settlement of people who lived by tillage and herding. As in eastern Europe today, the distinction between village and town was one of occupation; agriculture in the former case, trade and industry in the latter.

To the left is the "big house" of the proprietor or lord. Around it, at a respectful distance, are various farm buildings, a church, and a parsonage. Not far away is a group of enclosed fields, which the lord or his steward or bailiff (we might say his foreman) farm to suit themselves, the labor being furnished, however, by the villagers. On both sides of the stream stretches a wide band of meadow, the best land on the manor.

Particularly to a modern American observer, the most striking thing in this bird's-eye view would be the three great open fields, containing the bulk of the plow land. Their intricate arrangement in strips (indicated in the diagram only in the case of South Field) would have to be explained

to him. The strips vary a good deal in length and width, and some even taper from one end to the other, or bend to conform to hillsides, marshes, or stream; yet there is a striking general uniformity as to size and shape. This standard size, followed wherever convenient, is about forty rods long by two or four rods wide. Forty rods is a furlong (contraction of "furrow-long"), traditionally supposed to be the distance which an ox team could pull a plow without stopping. Amounts of land are reckoned in acres or in roods. The rood is forty rods long by one rod wide, and thus contains a quarter of an acre.

Each strip is divided from the neighboring ones by a balk — a ridge of turf originally created by plowing furrows up against each other from either direction. Wider balks separated the groups of strips (shots, flats, furlongs) from each other. A shot was theoretically forty rods (that is, a furlong) square, but in actual fields this norm could be followed only in the loosest way. The strips of a single village family do not lie side by side, but are scattered over the three fields, about one third in each. The share of the peasant A in the tilled fields is shown in the figure by blacking in his strips. He has two oxen, and his holding is the full virgate, in this case about thirty acres.[1] His neighbor B has but a single ox, and his holding, half as large as A's, is known as a bovate or oxgang. The lord also has strips in the open fields, as well as (in this case, though not always) certain enclosed plots outside.

For simplicity's sake, no headlands are shown in the diagram. Wherever possible, a crosswise strip was left at the end of a shot or group of lengthwise strips, to turn on in plowing the latter. This headland (*Anwende*, or "turning-place") was of course plowed last. In actual fields, sloping this way and that and variously broken up by natural features of the landscape, the strips faced in all directions, as

[1] In England, exactly 30 acres seems to have been less common than 28, 32, 24, and 36. Virgates ranged all the way from 12 to over 60 acres.

indicated in the figure. In plowing one man's strips which "butted" into those of other men at right angles, or other angles, the plow must be turned on some one else's land. Thus a vastly complicated fabric of local custom grew up to regulate such questions as which man's land was to be plowed first. By ancient custom, holders of some strips would possess headland rights in other strips — that is, the right to plow first and to turn the plow on the other men's holdings.

The glebe was the land (stippled or dotted strips in the diagram) set aside for the support of the Church. While it was commonly in the form of strips in the open field, the Church sometimes held separate, enclosed plots. Specially favored freemen often had enclosures also.

The part of the domain or demesne (lord's land) which consisted of strips in the open fields was necessarily worked in exactly the same way as the peasants' holdings which surrounded it. It was plowed, sown, harvested, and pastured according to the village customs. The purpose for which they were set aside, not the method of tillage, made the essential difference between village holdings and domain or glebe land.

EXPLOITATION

The dual nature of the manor as an organization becomes apparent when we turn to the method of exploitation. On the one hand, it was a village association of peasants in the joint enterprise of working certain lands for a living. The shareholders in this enterprise elected leaders to enforce adherence to the ancient customs which regulated nearly everything. If these customs had to be reinterpreted in the light of new conditions, or if difficulties in their execution occurred, the matter was taken up by the general meeting or court. The manor might be dealt with from this one-sided viewpoint entirely, and the lord treated as an unhappy accident, superimposed by force, requiring the peasant association to produce beyond its own needs in order to maintain him in his social, military, and political connections. Viewed from the

lord's angle, on the other hand, the manor was his estate, or one of his estates, if he held a number. To him it was part of a fief, and as such its purpose was to furnish him with the means of maintaining himself, his family, and his followers in their fitting relationship to feudal society and the Government. He or his agent presided over the manorial court which designated the various peasant leaders, transacted business, and meted out justice.

These two aspects of the agricultural settlement were really more or less separate factors, sometimes working harmoniously together and again sharply opposed. The lordly point of view asserted itself in a growing body of legalistic written theory, often founded on baseless historical assumptions which the illiterate peasantry was in no position to disprove. For instance, there was the theory that all tenure originated in grants from lords. The lords, lay and clerical, often claimed the meadow as part of the domain, and tried to make the villagers' use of pastures, woodland, and waste dependent upon their will. The legal theories made little difference as to land already in use. A virgater (that is, an ordinary half-free villager) usually managed to get the traditional amount of meadow and of pasturage rights for his two oxen and eight sheep. He continued to cut firewood and turf according to custom and to turn his pigs into the woodland or waste. But the lord was able to take advantage of changes as the villagers were not. Most important was the clearing of new land for tillage or meadow. Lesser opportunities arose from time to time, such as the final extinction of a direct line of peasants holding a virgate. The chief general limitation to the application of feudal ideas to the manor was the economic interest of the lord. While custom limited his use of the land in many ways, on the other hand it provided him with labor and dues, and enabled him to hold his stewards and bailiffs in check. Should the peasants' rights become weak and vague, an incompetent or dishonest steward might bring the whole enterprise to disaster, a situation as little desired by lord as by cultivators.

In England, and later in the middle ages in France also, the central Government took a good deal of interest in the manors. This was some protection against outrageous encroachments by the lord, particularly upon freemen, who had legal rights beyond the manor court. The Church, too, helped to guarantee a certain amount of justice and humanity. Peasants on both royal and Church estates were generally the best treated, and the moral, legal, and political influence of State and Church beyond their technical domains was very great. The example of their better methods was all the more powerful because they stood ready to absorb private rights, title, and authority in cases where notorious failure to live up to their standards of prosperity and contentment paved the way.

From February or early March until mowing time (about the first of July) the meadow land was fenced in. Hedge was the commonest type of fence, though some old, rich communities used stone. Brush, hewn wood, and turf were also employed. Meadow land was commonly marked off in half-acre plots, which were rotated by families or apportioned by drawing lots, much as in the more primitive village. A certain share usually went with a virgate. Sometimes specific plots went with certain virgates, the peasant thus having the same part of the meadow year after year. This was merely the general trend of manorial development — that is, toward specific, permanent claims — applied to the very heart of the primitive coöperative village organization, the meadow. After mowing time, sections of fence were taken down and the meadow used for grazing; that is, roughly from July to February.

Rights in the common pasture were likewise linked to holdings in the arable fields. A full cultivator or virgater would normally have a right to pasture two or three oxen, cows or calves, and about eight sheep. If he turned out more, he would be fined. The village cowherd and shepherd drove their respective charges to the commons in the morning and brought them back in the evening. Except in the winter

months the sheep were folded in the fallow field, in one already harvested, or in some designated enclosure of the lord's, if he enjoyed special sheepfold rights. Such rights were particularly prized, and sheep were often kept because of their value for fertilizing the soil, even the wool being a secondary consideration.

There were sometimes special limited pastures, on which even those villagers who had general pasturage rights could not graze their stock. It seems to have been common to assign these to such necessary people (non-virgaters) as the parson, the blacksmith, etc. Toward the end of the middle ages a good deal of arable land was converted to restricted pasture, in cases where the strips could be exchanged and consolidated so as to permit of the change. Before this could be done, however, a more scientific way of dealing with the hay problem had to be found; for the limitation upon stock was the number which could be wintered, meadow land being chronically scarce. The main item necessary to this solution was the introduction of hay crops superior to the natural grasses used at the height of the middle ages. There must be a break in the fatal circle: insufficient hay, shortage of stock, lack of fertilizer, low fertility of soil, and want of surplus grain. The fields cropped during the given year were opened to common pasturage after harvest. The fallow field was of little use as pasture, because it was commonly plowed twice during the spring and summer — a third time just before the fall sowing.

Most of the calves and less promising cattle were slaughtered at the opening of winter, and the carcasses either hung up or packed in salt. All were spared which could possibly get through in a state of semi-starvation. Hay was eked out by the use of twigs and branches, cut in woods or waste land. For these, the acorns gathered for hog feed, and for the peasant's own fuel, he was usually charged special dues by the lord. Even the pigs, comparatively cheap meat in the open months, had a hard time of it in the winter. The problem of winter feed was equally serious with poultry. Of

the mainstays, only the bees were easily cared for. Some districts depended a good deal upon fish, but even these were more difficult to obtain in cold weather. The winter meat shortage, as well as the love of outdoor sport, helps to account for the popularity of hunting and the prevalence of game preserves. Pigeons or doves were also kept by thousands for the same reason. Dove-cote privileges were among the chief grievances of the peasants against the lords. The villagers were usually forbidden to kill wild game, even though it destroyed their crops.

The fall crop of wheat or rye (or a mixture) would be sown in the South Field of our diagram sometime in the latter part of August, or during September or October. Each acre strip received about two bushels of seed — probably less, on an average. A yield of ten bushels per acre was about the maximum — only eight bushels net. This was the slender reward for three plowings, clod-breaking by hand, several harrowings (by dragging a small tree or a heavy branch, weighted down, over the surface), sowing, weeding, harvesting, and threshing.

Spring plowing and sowing were done during February and March. About four bushels of oats or barley were sown to the acre; of peas or beans half that amount. The yield of oats and barley was usually less than fifteen bushels, leaving say ten bushels net, over the seed. The spring crops required less labor for a given unit of food value. Barley, oats, and rye were the standbys of peasant diet, the one emphasized depending upon local conditions.

The villagers had to till and harvest not only their own strips, but the strips and enclosed fields of the lord as well. They worked in gangs, much of the tedium being dispelled by this fact. For the actual operation of reaping, these big groups were subdivided into crews or units of about five men each.

THE LORD AND THE DOMAIN FARM

The labor of farming the domain — strips, closes, and meadow — was done by the villagers. Each unfree virgater

had to furnish the lord a certain number of days' labor per week. The commonest figure seems to have been three, though it was sometimes two, four, or even five days. These particular dues were called "week work." The labor was not paid for — it was a customary obligation which was assumed with the virgate, and not the only one. Custom fixed what the peasant was to bring with him, such as oxen, plows, or tools.

Where four or five days' week work was furnished by a single virgate, it is obvious that the holding supported more than one peasant. In England, and quite generally in France, the virgate could not be divided in respect to its responsibility to the lord; but the families of course increased nevertheless. One son would be integrally responsible for the dues in produce, labor, and money; but two or three others, with their families, often got their living from the holding. It must be remembered that divisions like the hide and virgate are artificially standardized in manorial records. Some virgates were much larger than thirty acres, and some hides which were taxed as one hundred and twenty acres are known to have contained as high as one hundred and eighty. Productive capacity as well as acreage was taken into consideration in arranging local dues and national taxes.

In addition to week work, special services known as "boon works" or "boon days" were required at times like the harvesting season. These boon days were especially valued by the lord, and continued in many cases long after week work had been commuted to fixed money payments. In recognition of the peculiarly exacting nature of such services, at the most critical times in the peasant's own agricultural operations, the lord was often required by custom to furnish meals, wine, beer, etc. Many records go into meticulous detail as to what fare must be supplied at the various seasons of boon work.

Not all the work was in the fields. Repairs to manor house and outbuildings, the building and mending of fences, and

other similar tasks were performed by villagers. In France, where there was much war and the stone castle was common, the moats had to be cleaned out and kept in repair. There would be such a castle on the home manor of the feudal noble who held a number of such estates as a fief. The others might either be managed by his hired intendants or sub-infeudated to lesser nobles, who became lords of the particular manors they held, though not technically "lords" in the feudal system, since they had no nobles under them. They were the gentry, in the feudal hierarchy as sub-vassals, but on the outer fringe of the nobility. Here was the line between feudal and manorial relationships — feudal from the manorial lord upward, manorial from him downward (within the estate).

There were various special services besides the ones mentioned above. Villagers were sometimes obliged to do guard duty. As a general thing, the servile or half-free people did not go to war, but even this rule was not always followed. Not all the villein services were in terms of days, but sometimes a fixed amount of plowing, sowing, or other labor had to be performed, irrespective of the time required. Carting was another important service, one of the last to be relinquished by the lords.

The domain was a "farm" not so much in the restricted modern sense of the term as in the broader original one still retained by the French *ferme* (that is, "concession"). It exploited not only land, but also labor and the community organization as a whole. Either directly requisitioned or paid for out of peasant dues, the lord got his personal servants from the lower orders in the village. The half-free villagers were more advantageous to the lord than slaves, since he would have been responsible for the maintenance of the latter, while the former must keep themselves. The legal excuse for his existence, living on the surplus of their labor, was the fiction that they derived from him the privilege of working their lands, for which they paid by working his also and by numerous other dues. In fact, lords continued to exploit

villages (the word "exploitation" is an inheritance from the manorial order) because they possessed the organized force and authority. The importance of this military force, for protection, was the very foundation of the mediæval order.

Besides labor dues, the lord "farmed" the village for various provisions. Vinogradoff gives the manors of the Abbey of Ramsey as an illustration. Every fortnight they had to supply 12 quarters of flour, 2000 loaves of bread, 24 gallons of beer, 48 gallons of malt, 2 sesters of honey, 10 flitches of bacon, 10 rounds of cheese, 10 very best sucking pigs, 14 lambs, 14 geese, 120 chickens, 2000 eggs, 2 tubs of butter, and 24 gallons of ale. Money was paid instead of the bacon and cheese during Lent.

The burden of entertainment (*gîte*), mentioned so often in connection with feudalism, was largely passed on by the lord to the village or villages. In case of a visit from some one who had the right to be entertained in a certain style and for a given length of time, together with a customary number of companions and followers, the village was liable for special dues in kind, delivered at the "big house," and also directly for the housing and entertainment of the lesser folk.

CLASSES AND VILLAGE ORGANIZATION

Since the manor was exploited chiefly by a system of customary personal relationships, not by the impersonal money and credit economy familiar to us, or any considerable purchase and sale in open markets, the question of social classes is a vital one. The most conspicuous class has already been dealt with in some detail — that of the unfree virgater or half-virgater, who held his thirty acres of strips, more or less, and was subject to week work, boon work, special services, money dues and dues in kind.

Freemen and sokemen (sometimes the terms are used interchangeably) were exempt from some of these dues and had special privileges. Technically, the sokeman (socman — subject to the lord's *soc* or jurisdiction) did not have the right to sue in the royal courts, while the full freeman did, but the

legal situation was so varied and complicated that this distinction meant little. The only safe generalization is that the freeman or sokeman was exempt from what were regarded at the time and place as servile conditions of tenure. As to the most widespread notion of what "the certain mark of servile tenure" was, Ashley and Seignobos are roughly agreed, which indicates that English and French ideas were similar. Generally speaking, the man was not free who had to get his lord's consent in order to give his daughter in marriage, or to sell an ox or a horse; but there were many exceptions to this or any other general rule which could be laid down.

From the purely economic point of view, it is more important that the freemen were commonly exempt from week work, might hire substitutes for the boon days, and generally paid established rents — "rents of assize." Where there was any money economy worth mentioning, these dues were paid in money or things evaluated in money, such as hens, eggs, etc., at fixed rates. The freeman was often exempt from heriot or relief, or both. Heriot was the fine consisting of the best animal or other property of a deceased tenant. It had its origin in the early German *comitatus*, in which the chief outfitted the follower, and received back the outfit upon his death. The relief, as in the feudal system, was a money fee or fine paid to the lord by an heir when he received his inheritance at majority. Exemption from these fees, especially the heriot, would indicate a recognition of ancientness of tenure equal to the lord's, and not derived from him.

Free tenancies were as diverse in size as in variety. One freeman would be a fairly large tenant, with ordinary cultivators dependent upon him. He might even have enclosed fields, like the lord. Another would hold merely a virgate or a fraction thereof, live in the village, and be scarcely distinguishable from the unfree population. The really important economic fact about the freemen is that they were a special source of revenue to the lord. Their fixed rents were extremely important in the organization of the domain farm. They enabled the lord's steward or bailiff to pay himself out

of profits, to provide a staff of servants, clerks, and some laborers, and thus in a measure to keep the domain from losing its identity as a superimposed control mechanism over the village.

The intendant, bailiff, or resident overseer of the estate was often an able man of peasant stock. Sometimes these positions became hereditary in families. In cases where the same lord possessed a number of estates near each other, he often had a general agent or overseer (*intendant, provost,* steward, *Amman*) to look after the group. The resident bailiff farmed out special monopolies of the lord, such as mill, winepress, and market, to lesser concessionaries. He collected the taxes and fines, saw to it that the labor dues were rendered, and generally managed the domain in the lord's interests and his own. He did not usually draw a fixed salary, but treated his post more as a farmed concession.

Next below the freemen were the standard villagers, the villeins or virgaters — half-free. Some writers designate these as serfs, a term likely to suggest less freedom and privilege than they actually enjoyed. East German peasants of the eighteenth century, and Russian ones until far into the nineteenth, were used as house and personal servants at the will of the master. They were not paid for such service, nor was it limited or defined by custom. This lacks, of being downright slavery, only the right of the master to sell them separately from the land, and even this was actually practiced in Russia. "Serf" has been so generally used to characterize these Russian peasants that it has become an objectionable word in connection with the mediæval manor.

House servants on the manor were often a separate class, maintained by the domain farm and with their own status. When personal service in addition to the customary days was demanded of villagers, they were supposed to be compensated. Manorial discipline was based on a sort of caste system, each class marked off by liability to or exception from special exactions, but within his own class a man's rights were pretty well defined and protected. While the

villein had no legal recourse against the lord if the latter chose to increase his dues, in every other relation except that with the lord he was considered free.

The common need of lords and cultivators to keep the customary duties carefully defined and observed, in order to keep the exactions of stewards and intendants from crippling the manor, led to the compiling of elaborate records. Another reason for reducing the dues and customs to writing was the increased movement of the peasantry late in the middle ages, making oral testimony more difficult to obtain. The manorial court records yield us some of our most valuable information. Copies of the entries were later accepted as proof of title, and the vast number of English farmers who based their claims on such records were called "copyholders."

Below the virgaters or villeins was an anomalous class of cottagers (cotters, crofters, bordars, *Kossate*). They had no oxen, paid light labor dues for cottages with small plots of ground attached, and eked out a living by working for the classes above. The English Domesday survey of 1085 shows thirty-two per cent of cotters or bordars, and thirty-eight per cent of villeins. The nine per cent of *servi* or slaves disappeared within a few decades.

The cotter group was very important as the source of employed labor. When a general movement toward enclosure set in toward the end of the middle ages, large numbers of cotters were cast adrift, furnishing a floating population which crowded into the towns to form an industrial proletariat or gathered on farms as agricultural wage laborers. As a class, the cottagers formed a sort of sub-stratum of feudal-manorial society which caught discards and misfits from above, living miserably and precariously on the border-line of starvation.

In Germany and the Low Countries, there were more freemen (*freien Landsassen, Laetes, Landsiedeln*) than in England or northern France, where the early rise and consolidation of feudalism had tended to bind all to the soil. Feudalism was a feeble force in the Low Countries, due to the extraordinary

growth of towns. Here a freeman was such in fact as well as in name — he could move. The same was true of Germany before it was caught in the eastward advance of feudalism. France also had a slightly favored class of "free villeins" (*vilains francs*, as distinguished from the *vilains serfs*). By a very nice legal distinction, the "free villager" was robbed of his actual freedom of movement: while he was supposed to enjoy a shadowy "personal" liberty, his *tenure* was held to be contractual, and not to be cancelled without the lord's permission. This, coupled with the fact that he personally tilled the soil, put him in the despised caste of cultivators and practically placed him in the social position of a *roturier* or ordinary villager. On the other hand, he was accounted a contractual tenant or leaseholder — that is, his tenure was not technically servile. He had to pay cash rents (*cens, oublies*), dues in kind (*champarts, agriers, terrages*), but beyond this, the produce was his. His heir had to pay a succession tax (*relief, double cens*), or the holding could be alienated, subject to the payment of taxes called *lods et ventes*. The fees known as *lods et ventes*, which never disappeared until the French Revolution, applied also to the transfer or sale of villein property. *Taille* was a more general term for both regular and special money taxes laid upon households. It was more arbitrarily dependent upon the lord's will than the *cens*, and might be increased in amount or frequency of collection unless he had restricted himself by contract to a fixed sum. As time went on and the central Government was strengthened, the *taille* became a land tax in the more modern sense, levied by the Crown, and the word *cens* was used to designate a ground rent to the proprietor. The capitation or poll-tax was not very common, and was hotly resented by peasants. For example, a national poll-tax was the immediate occasion for the English Peasants' Revolt of 1381. Road work and other similar labor in gangs was known as the *corvée*.

Some of the miscellaneous obligations show the influence of feudalism. The lord's right of wardship and marriage in the feudal system had its counterpart in the manor. The *mer-*

chet or marriage fee demanded of a woman of villein rank was a reminder of the ancient status and obligations of her class if she married a man of the same manor. If, however, she married outside her village, a much heavier fine might be imposed because of the loss of her labor and that of her descendants. Chevage was a fee charged for the privilege of working outside the manor. Mortmain was the lord's right of escheat — to take back the holding of a villein who died without direct heirs under his roof. If the lord granted the holding to a direct heir who had moved away, or to some relative not a direct heir, a large fee might be assessed. If in money, this tax was exactly similar to a feudal relief; if in the form of a piece of property, it was the heriot (German *Todfall*). Succession customs varied a good deal by localities. At the outset they had been practical attempts to meet actual conditions. Primogeniture was the logical thing where labor was felt to be scarce. The eldest son, the heir, might grow to manhood, marry, and have good-sized sons of his own before his father relinquished the virgate. If waste was being reclaimed, the younger sons, perhaps with families also, would remain in the village, either occupying newly cleared lands or getting their living from the original holding. Where land was scarce and the pressure of population great, the younger sons, far from being held to the manor, would be encouraged to join new colonies or move to towns. Ultimogeniture, or inheritance by the youngest son, was adapted particularly to overcrowded regions. In this case the older sons would get out at maturity, and the heir's family would probably be small when he took over the virgate.

The place of clearing and colonization in mediæval agriculture as a whole is quite generally neglected by writers on the manor. New areas were constantly being cleared, and the frontier of Germany was on the march eastward from the Elbe, into the country overrun by Slavs during the migrations. The great land reclaimers were the monks. Monasteries grew and multiplied, not only through pious gifts, but also because of a great exodus to new sites of the excess popu-

lation of older manorial communities. The expansion of an old manor into the surrounding wastes was often accompanied by a growing infringement by the lord upon the original rights of the cultivators. Some measure of this encroachment may be taken by observing the superior position of peasants on the older royal manors of England, where less change had taken place than in the case of lordly estates.

Most enviable of all was the lot of the peasants on Church lands. They were freest of all from the scourge of war, the great devastator of agriculture. The clergy constituted the one generally literate class in northern Europe. Latin works on agriculture, such as those of Cato, Varro, Columella, and Palladius, were preserved and applied to some extent. Methods of tillage were generally more enlightened, and the danger of famine correspondingly less. The cold selfishness which sometimes characterized individual exploitation of defenseless commoners was largely absent.

Lordly and peasant government coalesced in the public meeting or court. Some writers have tried to distinguish formally between three kinds of manorial courts: the court baron of the lord in his rôle of feudal landholder, the old customary court of peasants only, and the court leet (German *Leute* = people) of Norman manors and English parishes. To these authorities, the manor court was a court baron when it dealt with inheritance, transfer or grant of lands, fines for breach of customs, election of officers, etc. When it dealt with purely peasant matters, it was a customary court. It was a court leet when it took up such matters as petty crimes and offenses, breaches of contract and assize (that is, established prices, quantity or quality of bread, ale, etc.) or the regulation of frankpledge groups. These compulsory groups of villagers, all members of which were responsible for the conduct of each, were an institution of the village as a part of the State and not manorial.

In practice there was usually but a single court, which met periodically to transact whatever business required attention. It looked after fines, heriots, reliefs, regrants, the ap-

pointment of village officers — the same kind of public matters came up in our own town meetings in early New England. The lord or his representative presided. The representative was not necessarily his employee. Many manors were practically administered by reeves chosen by the manorial courts from among the tenants. Often there was also a bailiff or lord's overseer, but on a small manor the two offices were sometimes combined in the same man.

Among other important officers appointed by this meeting was the "hayward," who had nothing to do with hay, but was really a warden of fences (that is, "hedges" — German, *Hag;* Saxon, *Hege*). His duty was to see that the fences and their gates were kept in repair, that the fields were cleared of stock at plowing-time and thrown open to common pasture at the customary time in the fall. In England this latter was called "Lammasday," and was celebrated by a village festival. The word "town" itself originally meant a hedged-in place (Old German, *Zun* or *Tun;* Modern German, *Zaun* = hedge).

The privilege of levying and collecting certain fines was called the "right of justice," and was simply a lucrative part of the domain farm. Both free and half-free tenants were summoned as jurors (French, *juré* = one sworn). It was not until comparatively late in the middle ages that these public meetings began to be broken up into more specialized judicial, legislative, and administrative bodies. We do not have to go back as much as three centuries to find the word "court" used to designate a general meeting of villagers, townsmen, or stockholders.

THE MANOR AS AN ECONOMIC UNIT

For the times and conditions, the open-field manor was about as efficient an agricultural unit as could have been found. If its social structure and reliance on tradition hampered progress, on the other hand they prevented decay. Its greatest drawbacks from our point of view were inherent rather in the general situation than in the manor itself.

There was not enough central government and protection of life and property nor good enough roads to permit of any great interchange of products between localities. If hail or drought resulted in local famine, there was no adequate organization for bringing relief, even from an adjacent prosperous county. There was no great surplus anywhere. All the manors lived practically from hand to mouth. The small yield was an inevitable corollary of want of capital and trade. Few localities — only those nearest the towns — could specialize in the products for which they were best suited, because they could not depend upon marketing them or getting the others from outside.

Comparison with later times is particularly difficult, since the manor was not managed for profit so much as for obtaining a livelihood. It could not have supported a dense population, but it did not have to. The villein's house was poor and dirty, and its furnishings meager. Probably his modern descendant is better off, on the average, in this respect. He was more coarsely clad than the modern laborer — perhaps less comfortably. On the whole, the villein was probably as well if not better off as to food than the modern European unskilled laborer, and somewhat worse off than the skilled laborer, especially as to variety. While the mediæval villager had no part in such central government as existed, this was largely offset by the fact that government was chiefly local. His voice in village and parish affairs was at least as great as that of his modern descendants. "One thing," as Gibbins suggests, "perhaps balances another."

There is always the possibility that an increase in material goods will entail a still greater one in wants, so that contentment may relatively decrease. A rigorous life itself engenders the hardihood to support it, and a system of castes is not particularly galling to people accustomed to nothing else. The sociability of village life was a source of well-being in a very real sense of the term. Those intimately acquainted with the eastern European peasant of to-day are usually great admirers of his personal qualities. He often

sings at his hard tasks. Sunday and holiday group dances and other social gatherings are singularly gay and happy.

The manor did not decay through inability to meet the conditions which produced it, but rather because those conditions passed away. As long as communities remained relatively complete units, sufficient unto themselves, division of labor between regions was out of the question, and minute specialization of functions within the village was unnecessary. Both types of specialization or division of labor are highly advantageous where possible, enabling the region to exploit its special resources and the individual his peculiar talents. It was the gradual appearance of these possibilities, through improvements in transportation, finance, and government, which undermined the manorial organization.

CHANGES IN THE MANOR

In considering the changes which the manor underwent, it is necessary to remember constantly what the institution was, as distinguished from the various elements or factors which were combined in it. First, there was the open-field village. Second, there was the lord, with his domain farm. Third, there was villeinage — the half-free, customary relationship of the bulk of the peasantry to the lord. Fourth, the fabric of feudal relations, while it technically touched the manors only at one point, the lord, was nevertheless spread over them, and furnished a large portion of the system and uniformity which makes the manor a sufficiently generalized institution to be worth studying.

Open-field tillage only partially decayed before the nineteenth century. Half the English county of Cumberland was still unenclosed in 1794. Open-field methods were very common in northern France up to the Revolution. In Germany, they were a real factor in agriculture during half of the nineteenth century. In Russia, they have not entirely disappeared even yet, in spite of the drastic reforms of 1861, 1906, and during the period since 1917. The lord was only gradually transformed from a domain farmer into a collector

of rents. It was the collapse of feudalism before the onslaughts of central governments, the liberation of the serfs, the development of markets, and the growth of specialized farming for the market which so changed and diversified the manors that a generalized institution was no longer visible. Villeinage sharply declined in England during the fourteenth century and slowly died out afterward. The French crown serfs were all freed by about 1350. As in England, those on private estates gained their freedom by individuals or groups, or were able to rid themselves of particular servile disabilities, until the last vestiges were swept away in 1789. The last German villeins were freed by decree during the Napoleonic Wars, but it was several decades before this was fully effective in fact. Those of Russia were emancipated between 1861 and 1866, though vestiges of lordly exploitation and oppression lingered on.

General changes in the manor, followed by its disintegration, took place first in the Low Countries. Much of this region had consisted of marshes and half-sunken coastal plains. It was made cultivable only by vast labor, and a large part was unsuited to the manorial type of organization from the beginning. The terrible inundations — no less than thirty-five from the eleventh to the thirteenth centuries — which created the Zuyder Zee, the Dollart, and other lesser gulfs led to the expenditure of enormous amounts of capital for sea walls, dykes, canals, and pumping apparatus. On the fertile lands thus reclaimed grew up an intensive type of farming in enclosed rectangular fields. The early rise of commercial towns on the harbors and along the navigable rivers made it possible to produce for market, and hence to specialize in profitable crops. The use of money became general. Besides the strategic position of the Low Countries for trade, the towns became a sort of banking headquarters for the papal collectors in that part of Europe. English taxes to Rome came chiefly in the form of wool and other raw materials, to be converted into money in the Netherlands.

Under their peculiar conditions of production and market-

ing, the Netherlandish farmers could not use the three-course crop system of the manor. Much of their land had never been arranged in strips. Scarcity of land relative to population forced them to seek productive and non-exhausting crop cycles, and to develop the scientific use of fertilizers. Instead of the manorial three-year régime of fall crop, spring crop, and fallow, a five-year, seven-year and even up to an eleven-year cycle of crops in rotation was developed. It was from the Low Countries that clover and sainfoin were brought to England.

The existence of this intensive and individualistic type of farming in the Low Countries profoundly affected agriculture in the near-by French lands, and still more in Germany. Crowded at home and lured by free land abroad, Dutch and Flemish colonists pushed eastward and southeastward, reclaiming the low margin of the North Sea and joining with the Saxons in clearing and developing the Low German lands. Up the Rhine, the final southeastern frontier of the Dutch type of settlement rested about on a line with Düsseldorf. Beyond this, the individual farmsteads thinned out and the three-field village predominated. The Dutch settlements reached eastward through the swampy country about Bremen, and thence northeastward across the Elbe into Holstein and Schleswig. From this advanced nucleus they spread eastward into Prussia proper and southeastward into Brandenburg, wherever seacoast, marshes, or sluggish rivers produced conditions particularly adapted to Netherlandish methods. Dutch colonists were mixed with Germans, and also with Slavs on the eastern frontiers. Favors and inducements to these welcome immigrants were a traditional policy of German rulers far into modern times. The progressive trend of East German agriculture has never been entirely lost, though the relative personal freedom which accompanied frontier conditions finally gave way to the bitterest serfdom following the Thirty Years' War (1618–48).

Most of the territory west of the Rhine had at least been cleared in late Roman times. East of that river, the popula-

tion had never been dense, and most of the land was covered with forest, underbrush, or swamp, with only a clearing here and there. In France, the vast surface cleared by monasteries and laymen in the middle ages thus represented restoration for the most part; but in Gemany it was true pioneering. As late as the eleventh century, missionaries told of journeying for days through German forests without encountering a human being. Yet this comparatively empty land was capable of supporting a population of about a hundred to the square mile by mediæval agricultural methods. Colonies, especially of monks, settled here and there, first along rivers and main roads or in the outskirts of forests. Within three centuries, the country was dotted with commercial cities and covered with a network of manors, farms, and monasteries. Part of this came about by immigration, and a great deal by population increase. From the North Sea to the High Alps, from the Rhine to the Vistula and beyond, stretched a new civilization where forests and marshes had been, broken here and there with a pastoral village, with perhaps a patch of half-tilled arable land. The variety of agricultural institutions in this German country was largely due to the diverse origin of the colonists who had developed them.

France (within her 1914 boundaries) probably had a population of five or six millions in the ninth century. By the end of the middle ages, this had practically quadrupled, and remained fairly stationary around a hundred to the square mile — all that mediæval agriculture could support. This four hundred per cent increase tells its own story of the vast process of clearing and settlement. Monastic colonies and settlers from old communities reproduced in new regions the institutions they had known in the old. There is nothing surprising or mysterious about the general uniformity — any more than there is about the similarity of township and county organization in the American West to that in the parent communities on the Atlantic seaboard.

A similar process of clearing and settlement went on in

England. Forests were cut down, marshes and wastes reclaimed. The movement of population was generally northwestward — that is, spreading out from the coasts nearest the Continent, which had been fairly populous at the time of the Norman Conquest. England remained a relatively backward country, however, until well beyond the close of the mediæval period. On the same basis as the Continent, her soil should have supported a population of five millions or more — a figure not attained until the seventeenth century. Still, the number of Englishmen probably doubled between the Norman Conquest and the opening of modern times. The Domesday population (1086) is commonly estimated at 1,800,000.

Probably not over a quarter of the land in the Low Countries was cleared and under cultivation at the opening of the eleventh century. By the end of the fourteenth, practically every available acre was utilized, and vast numbers of people had emigrated besides. All but a very few of the towns and villages of the region were in existence at the close of this period. Orchards, dairy farms, market gardens, and even some vineyards, where climate and soil permitted, marked the growth of specialized effort, skill, and knowledge. Varieties of stock, grains, and fruits were bred up, crossed, brought in, and acclimated. The more serious diseases of domestic animals were studied, and an empirical veterinary science sprang up. Land was shifted from arable to pasture and *vice versa*, depending upon its needs and the market. Most important of all was the introduction of forage crops, which made possible the modern type of rotation. Towns as well as monasteries and princes interested themselves in the reclamation of lands and the improvement of tillage. One of the final marks of economic integration in any country is the application of the commercial ideas of capitalization, specialization, and production for profit to rural enterprise. This took place in the Netherlands before the end of the middle ages. Successful business men from the towns bought estates and exploited them with the open-mindedness

and sagacity which had made their fortunes in their earlier competitive activities.

Central France was a region of mixed institutions, partaking of the nature of both the commercialized and industrialized Mediterranean region and the more typically agrarian North. While little attention has been paid in these pages to the agriculture of southern Europe, it must not be supposed that it was unimportant or stagnant. The northern or Christian part of Spain was being reclaimed and settled. Agricultural practices came more and more into line with the progressive methods of the Moors. Great irrigation works were developed in the Italian city-states. As in the Netherlands, communes and princes vied with abbots in building reservoirs, straightening, deepening, and restricting the courses of rivers, and digging canals. The Grand Canal of Lombardy, constructed between 1179 and 1257, poured the waters of Lake Maggiore upon some eighty thousand acres of land in the valleys of the Adda, the Oglio, and the Po.

Feudalism and the spread of the manor with the growth of population were enormously powerful factors making for system and uniformity in North European agriculture. The very fact that the growth was social and in a very real sense organic must guard us against overestimating this uniformity. Monasteries, lords, and free peasants did not colonize exactly alike, nor were the institutions in their various places of origin identical. The general necessities of local sufficiency and carrying on without much commerce tended to make the various agricultural units similar, but on the other hand their relative economic independence of each other was a real force in the opposite direction. In some localities, near towns, money economy came in and the self-sufficiency became weakened so early that the main factors for uniformity hardly applied at all. Moreover, the larger towns were able seriously to weaken the grip of their feudal lords by purchase of rights, by force, and by allying themselves with the central governments. This variation in respect of the importance of trade and markets leads Professor Gras to distinguish be-

tween rural and urban villages. To the former class would belong only those outlying manors which had little opportunity to exchange goods.

DECLINE OF THE MANOR

The factors which made for manorial uniformity seem dominant until about the thirteenth century. The manor became more and more identified with the general economic development of northern Europe, and hence gradually lost its own identity. The central economic fact in this decay of the manor was the introduction of specialization, which was closely linked with all the other changes. Its coming in was a corollary of the development of markets and of trade, which will be surveyed in the next chapter.

Commutation of personal services to money payments began in earnest in northern Europe about 1200. Already, many of the better tenants had begun hiring cotters to perform their boon-day or harvest obligations. The lords themselves had hired extra men at such times. Even at the height of the middle ages some of the smaller manors had hired itinerant craftsmen rather than maintain them the year round. With the increase in population, lords had succumbed to the temptation to clip off outlying parts of woodland or waste, for enclosure in the domain or renting to freemen. The use of oriental or South European goods had become a mark of high social standing by the thirteenth century, and such goods had to be purchased with money. There were three obvious ways of getting money: raising products for sale, renting for cash to tenants who had to produce for market to get the money, or accepting money payments in lieu of personal services.

The increase of population unsettled other economic questions. Among these was that of the commons or public pasture. Some of this land was actually needed for the plow and relatively unproductive as it was. In many cases the rights of the villagers in it were obscure and hard to defend, especially according to the Roman legal theories which had

experienced a great revival in the twelfth century. Many Englishmen became familiar with the enclosed fields of southern Europe through the occupation of Aquitaine in southwestern France after 1154, and the accompanying relations with Spanish princes. A much nearer lesson in the advantages of enclosure was provided by the Low Countries. By trading and consolidation the lords succeeded in withdrawing most of their isolated open-field strips. As their enclosures increased, they needed more hired labor, which again meant more payments in money.

Once commutation got well started, the mediæval tendency toward fixity got hold of it, and it became itself customary. At first, the lord often reserved the right of demanding labor in place of money. Some of the earlier commutation contracts were for fixed periods — a year, a term of years, one or two lifetimes. Such reservations were found to be generally useless in practice, the trend of the times being in the opposite direction, so they were gradually dropped. Up to the Black Death (1348) the North French or English peasant became more and more free in practice, though his legal disabilities were theoretically as great as ever. Legally, his tenure was "at the will of the lord," to which phrase was eventually added "according to the custom of the manor." These "manorial customs," as shown by the court records, later got recognition from the royal courts. By about the end of the fifteenth century, the English "copyholder" (whose title consisted of a copy of the entry in the manorial court record showing customary tenancy in his family) was given equal protection with the freeholder.

The decline of serfdom and the growth of contractual tenancy was temporarily checked by the Black Death, the Hundred Years' War, and accompanying conditions. These factors did not, however, check the growth of markets or the general swing toward agriculture for profit. At first, both lord and peasant had been benefited by commutation, the former because hired labor was more efficient on the domain, the latter because he did not have to leave his own farming at

the most critical times to work out labor dues. Gradually, however, money had become more plentiful, with the results that the peasant could pay his fixed dues more easily, but that the lord could not replace the labor he had surrendered for the same money. This condition was aggravated by the Black Death. Cotters and laborers immediately demanded higher wages. They got the increase, in spite of royal proclamations, statutes of laborers, and resistance on the part of the lords. Due to the death of many laborers, virgaters, and tenants, and to the flight of a large fraction of the remainder, there was not more than half enough labor.

Both farm and craft work were partially suspended during the worst of the panic, causing a scarcity of goods, which raised prices. In this situation, the laborer could not exist on his old wages or the proprietor pay more, and each still maintain his accustomed standard of living until production had been restored. This vicious circle is familiar enough in modern periods of inflation.

Besides attempting to hold wages down by law, the lords turned again to the labor dues to which many of them still had legal rights. Often these rights had lapsed so long before in practice that any attempt to resurrect them was certain to bring about class hatred if not actual insurrection. There were probably few cases in which lords succeeded in evading or cancelling commutation contracts; but commutation was certainly checked. The more rigid enforcement of services not commuted kept both France and England in a social ferment for years. The French peasants' rebellion or *Jacquerie* of 1358 was suppressed, after much bloodshed and destruction on both sides. In England, peasants often simply "withdrew" their services, as null and void through lapse of time, and also as opposed to the dignity and rights of common men. Riots were common. The plague had removed a large fraction of the clergy, and wandering friars or popular priests like John Ball stepped into their places. Of necessity, their training in theology and their immersion in tradition had been short. They did not stop with assailing particular

abuses, but encouraged the masses to question the whole basis of the social order. In such popular doggerel as

> When Adam delved and Eve span,
> Who was then the gentleman?

they demanded to know why those who labored to make goods should be stinted, while others who created nothing at all had goods in abundance. No modern radical has put the query, of why society should pay people merely for owning, more pungently than did John Ball. The radicalism of the times riots through the earlier versions of the *Vision of Piers Plowman*, and John Wyclif's denunciations of the higher clergy and their taxes were freely applied by the populace to the upper-class laymen as well. In 1381 the disturbances came to a head over an ill-advised poll-tax; but the Peasants' Revolt was soon broken up by a mixture of chicanery and frightfulness.

Farming for profit, long established in the Netherlands, became a serious factor in the English situation during this fourteenth century. Wool was the great market crop. Not only was it exported to Flanders in large quantities, but with Edward III began an insistent attempt to settle the Flemish weavers with their looms upon English soil. The shortage and expense of peasant labor created a special incentive for proprietors to turn their arable fields into grazing lands for sheep, which change cut down the required number of hands. The chaotic state of titles following the plague also made it possible to convert much old peasant land into pastures. This added to the class conflict by diminishing the farmed area, so that the cost of living remained high, while the demand for rural labor was depressed. An exodus of dispossessed virgaters and cotters to the growing towns set in. Production for the market, coupled with the use of money, came in rapidly, especially after the discovery of America and the expansion of foreign trade.

Traditional claims to personal services could not be generally revived, especially in the presence of so much money and

trade. Where the services were not repudiated entirely by peasants, or dropped by lords as unprofitable, they were converted into money payments. The flow of country population to the towns, and the accompanying growth of industry, created a new need for surplus grain which checked the shift to sheep-raising. Probably this early phase of the enclosure movement, up to about 1600, directly affected somewhat less than half the soil of England. The indirect effects were equally important. The great domain farms proved unprofitable under the rising wage system, and were broken up for lease to ex-bailiffs or prosperous peasants, who exploited them with hired labor. At first, the stock was generally furnished by the proprietor, but later the tenants accumulated stock of their own.

In northern Europe generally, the strictly mediæval type of manor broke up into four distinctive agrarian systems. The first was peasant proprietorship, under which the villein classes got rid of the lords and became the owners of the lands held by their ancestors as customary tenants. This was common in central and parts of northern France — less so in western Germany. Second, there was the metayer system, in which the tenant paid a share of the crop — half, according to the name (*métayer* = to divide in half) — though the practice varied. There were scattered instances of this in northern Europe, but it was more characteristic of the south. Third, great farms covered much of northern Germany, notably Mecklenburg and Pomerania. From about seven hundred to fifteen hundred acres was the normal size. Finally we have noted the English system of tenant farmers which was in formation at the opening of modern times. Two hundred acres was about an average size for these — some six times the area of the older virgates.

Under peasant proprietorship there was only one class on the land, the owner, cultivator, and laborer being identical. On the Continent generally, conditions seem to have favored this system at the expense of the other three. The history of land tenure in Europe since the fifteenth century has been

extremely complicated, but whenever arbitrary checks from outside — that is, factors not directly derived from agricultural economics — have been removed, the system of small peasant farms has forged to the front. Both tenant and laborer were new classes. The descendants of the older peasant class — aside from the occasional ones who had risen to tenancy — had been driven out or reduced to the status of laborers.

No arbitrary date like 1492 or 1500 can mean much in a complex and variegated history like that of North European agriculture. The feudal land system spread, now slowly, now more rapidly, from a comparatively restricted nucleus in the northwestern part of the Continent. It continued its march eastward for more than five centuries after the date, about 1200, when the introduction of money and trade was obviously undermining it in its land of origin. Thus, in the seventeenth century we see it getting a powerful grip upon eastern Germany for the first time. Throughout the same century, under the early Romanoff Tsars, the peasants of Russia were gradually bound to the soil by a series of decrees which came to a culmination in the reign of Peter the Great (1689–1725). The full effects of this policy in producing institutions roughly similar to the western European manor, with villeinage, were not felt until after 1762. By an unwise decree of Peter III in that year, the strict accountability of the landed nobility to the central Government, which had been an important feature of Peter the Great's plan, was relaxed. The serfs were left more and more to the arbitrary control of their local lords. Peasant uprisings, like that of Pugachev in 1773, were drowned in blood, and could not stay the rising tide of serfdom. In the thirty-four years of Catherine's reign (1762–96), 800,000 free peasants were reduced to serfdom, and in five years (1796–1801) her son Paul handed over an additional population of 530,000 to private persons with his gifts of state lands.

Places are as important as dates, therefore, in tracing the decline of manorial agriculture, as well as its rise. The dis-

integrating effects of money, trade, and the rise of national governments, which were plainly visible in the history of the Low Countries, northern France, and England as early as 1200, must be traced in two different ways at once: first, their widening effects upon western European rural life; second, their eastward expansion. The effects of the crusades in the widening and integration of European economic life blended gradually and insensibly into those of the overseas expansion which gathered headway during the sixteenth century. Economically, they are successive phases of the same movement. The first phase, the expansion of Mediterranean commerce, affected central Europe almost as much as it did the western fringe. The second phase, the reduction of the open ocean to a highway of trade and colonization, gave an enormous economic stimulus to the Atlantic seaboard states, partially eclipsing both southern and central Europe. But the effects of this whole commercial expansion, in both of its overlapping phases, were gradual and cumulative rather than revolutionary. We need only consider the slow and measured increase of population to convince ourselves of this. From the thirteenth century to the eighteenth (which inaugurated revolutionary changes in technique and organization), we are tracing the same general historic tendencies; and the effects of the so-called Industrial Revolution did not gather much force in central and eastern Europe until even later.

In England, the manorial organization had practically disappeared by 1600. Important vestiges of mediæval technique remained behind, however. Their disappearance was a corollary to the vast changes in industrial technique and business methods after about 1750. The commutation movement was accelerated by the new supplies of money metal from American sources and by the fresh impetus to commerce and industry which accompanied the expansion of European civilization; but the capitalistic tendency in agriculture had a checkered history during the sixteenth century. It was fiercely opposed in England by such men as Sir Thomas More and John Hales. A long series of acts against

enclosure covers the period from 1488 to 1607. For more than a century beyond this latter date the slowness of the agricultural transformation is striking. The suggestion is almost irresistible that the real check was economic, the acts of government merely incidental. Mere changes in organization did not make possible the maintenance of a much larger population. For that, a revolution in technique was necessary.

This point becomes more obvious when we turn to French agrarian history. By the fourteenth century the population of France had reached the approximate maximum supportable by the then-known agricultural technique. This technique improved very slowly down to the eighteenth century, and the population increased only slightly. The long numerical stability was accompanied by a conservative growth of prosperity among the peasantry, and the rural population of France was well off in the eighteenth century as compared with that of other European countries. Vestiges of serfdom disappeared gradually, until little remained for the final house-cleaning of 1789.

The unfortunate corollary of this long numerical stability was an intricately traditional social order which could respond only sluggishly, in either the vital or the technical sense, to the new opportunities created by the eighteenth-century Industrial Revolution. It was three centuries from the time when the mean density of the French population reached a hundred to the square mile until the period when overseas colonization on a large scale became practicable. By the seventeenth century France had developed and settled down to a social and economic order based on relatively stationary numbers. The largely unconscious mechanism whereby this was accomplished is familiar to all students of population problems, and is roughly similar in most societies which dwell for a long time on the same territory. Age of marriage, size of dowry, division by bequest, and a thousand more intricate matters which regulate population become embedded in custom, and well-being is thus insured against an

increase in numbers which might overwhelm it. Such a traditionalized social order lessens the friction of group life, attaches the individual to his community by bonds of habit and sentiment, and makes him reluctant to move. The French peasantry generally remained lukewarm to the idea of colonization. Some Huguenots (Protestant townsmen, mostly of the middle class) would have been willing to go out as pioneers, but the Government discouraged these. So the French population and social order was comparatively little shaken up by overseas expansion.

England, on the contrary, did not achieve the population density of fourteenth-century France until nearly the end of the seventeenth. By that time colonization and foreign commercial enterprise had become so important that the tendencies toward stagnation of population and stereotyping of the social order were headed off. The English Government did not prevent its religious schismatics and social malcontents from emigrating. Both technically and vitally, England remained unstable enough to respond vigorously to the eighteenth-century industrial changes. The portion of the Netherlands which was later to become Belgium was saved from stagnation by its favored commercial position and early industrial development. The Free Netherlands shared with England the advantage of great colonial ventures.

Germany was one of the most prosperous regions in Europe at the close of the middle ages. Some of the misfortunes which her trade suffered at the opening of modern times will be dealt with in another volume. A series of peasant uprisings, civil wars which were partially religious in origin, and imperial invasions by Spanish, Swedish, French, and Hapsburg armies profoundly affected the course of German agrarian history.

Coming later to Germany as it did, the manorial order was less decayed at the end of the fifteenth century than in the Low Countries, France, or England. Its impending disintegration at the opening of the sixteenth century coincided unfortunately for the peasantry, with a far-reaching intro-

duction of the Roman law, as well as with the disorders and wars which followed on the heels of the Protestant revolt. The new jurists derided the old German law, which had protected the lower classes and taken into consideration their customary rights as well as their disabilities. To the Roman jurist, law must be written and based upon the will of a prince. Soon the nobility got the necessary courts into their own hands. The tendency was for the lord to invest himself legally with the arbitrary powers of the Roman *dominus*, and for the partially free peasantry of various grades to be classified and treated as *coloni* or *servi* — serfs or slaves. Excepting the small group which controlled the new legal system in its own interest, Germans united in denouncing the Roman lawyers as thieves and shysters.

Especially did the introduction of Roman law cloak with legality the lord's encroachments upon the village commons, since the Roman codes recognized only individual private property. The *Todfall* or heriot, no longer protected by the German customs, was increased. Sometimes half the deceased peasant's goods were seized — or even all, if he had no wife. Where it had been converted into a money payment, the amount was arbitrarily increased, like the other money dues. The situation was peculiarly galling in that the feudal protection, which had been the chief excuse for such exactions, had become unnecessary with the growth of stronger governments which could collect taxes and preserve order.

The German peasant revolts of 1476–1525 were only incidentally connected with Luther's revolt against the Church. The whole movement was called the *Bundschuh*, after the laced peasant shoe emblazoned on its banners after 1493. The last of the great revolts (1524–25) was the most serious. For a time it threatened to overthrow the whole social order. This rebellion began at Stühlingen, in the Black Forest, and quickly spread over all southern Germany. At first, some of Luther's phrases were borrowed, but he soon repudiated the movement, and after that the South German peasants had nothing but scorn for "Dr. Lügner" (Dr. Liar), as they called him.

Both nobles and peasants committed the usual massacres and nameless atrocities, as in the earlier French *Jacquerie*. The peasants were utterly crushed, thanks to inability to organize against the professional soldiery. The same ill success followed the *Bundschuh* movement everywhere. Scattered risings took place in Austria. A great rebellion broke out in Hungary in 1514, led by George Doza. Great numbers of peasants had collected for a crusade against the Turks which turned into a social war when their lords tried to break it up. In the terrific war and the ghastly reprisals which followed, some sixty thousand peasants lost their lives. Throughout the Hapsburg Empire, the dues became heavier than ever, the lords more arbitrary. The vast majority of the German peasants had been *Hörige*, similar to the free villeins of France mentioned earlier — personally free, but occupying land subject to dues. They had owed both money and produce dues and personal services (*Frönen*), but in amounts fixed by custom. There had been comparatively few out-and-out serfs (*Leibeigene*), whose dues might be changed by the lords at will. After the triumph of the Roman law and the crushing of the *Bundschuh* movement, the status of the *Hörige* had become practically that of *Leibeigene* or serfs.

Germany was devastated and the imperial authority reduced to a shadow by the Thirty Years' War (1618–48), the last of a long series of religious, civil, and imperial struggles. Manorial serfdom in its worst form was generally introduced into eastern Germany for the first time. Household services without payment were exacted of the village families, and stringent laws enacted to prevent the movement of peasants to towns. Emancipation in Germany was not completed until early in the nineteenth century. The Hapsburg homeland, finally consolidated into Austria-Hungary, was still more backward. Russia did not emancipate her serfs until the second half of the nineteenth century, and vestiges of manorial economy lingered on into the twentieth. The same statement holds true for Rumania.

SUGGESTIONS FOR FURTHER READING

*Ashley, W. J. *English Economic History and Theory*, vol. I, ch. I. (London, 1913.)

*Ashley, W. J. *Economic Organization of England*, chs. I, III. (1914.)

*Bax, Belfort. *German Society at the Close of the Middle Ages*, chs. I, VII, VIII. (London, 1894.)

Bland, Brown and Tawney. *English Economic History, Select Documents*, pp. 56–113. (London, 1914.)

*Boissonnade, P. *Le travail dans l'Europe chrétienne au moyen âge*, livre II, chs. I, II, VIII, IX, X. (Paris, 1921.)

Cheyney, E. P. *Industrial and Social History of England*, chs. II, V, VI.

Fay, S. B. "The Roman Law and the German Peasant," *American Historical Review*, vol. XVI, no. 2, pp. 234–54. (1911.)

Gras, N. S. B. *An Introduction to Economic History*, ch. III. (1922.)

Gras, N. S. B. *Evolution of the English Corn Market*, pp. 24–31. (1915.)

*Gray, H. L. *English Field Systems*, chs. I, X especially; all good.

Hone, N. J. *The Manor and Manorial Records*. (London, 1906.)

Irvine, Helen D. *The Making of Rural Europe*, chs. I–III. (1923.)

Janssen, J. *History of the German People at the Close of the Middle Ages*, vol. I, bk. III. (1896.)

*Lipson ,E. *Introduction to the Economic History of England*, vol. I, "The Middle Ages," chs. II, III, IV. (1915.)

Maitland, F. W. *Domesday Book and Beyond*. (1897.)

Meitzen, A. *Siedelung und Agrarwesen der West- und Ostgermanen*, vol. II, ch. VII. (1895.)

*Meredith, H. O. *Outlines of Economic History of England*, bk. I, ch. II; bk. II, ch. III.

Ogg, F. A. *Economic Developmcnt of Modern Europe*, ch. II. (1918.)

*Prothero, R. E. (Lord Ernle). *English Farming, Past and Present*, chs. I, II. (1912 and 1922.)

Rogers, J. E. T. *History of Agriculture and Prices in England*, vol. I. (1860.)

Schapiro, J. S. *Social Reform and the Reformation*, chs. II, III. (1909.)

Sée, Henri. *Les classes rurales et la régime domanial en France au moyen âge*. (1901.)

Seebohm, F. *The English Village Community*. (1883.)

*Seignobos, C. *The Feudal Régime*, ch. I. (English translation, 1904.)

Simkhovitch, V. G. "Hay and History," *Political Science Quarterly*, vol. XXVIII, pp. 385–403. (1913.)

Usher, A. P. *Industrial History of England*, chs. IV, V. (1920.)

Vinogradoff, P. *The Growth of the Manor*. (1905.)

Vinogradoff, P. *Villeinage in England*, Introduction. (1892.)

Note: The literature of this subject is enormous. For more extended lists consult Usher, Sée, and Ogg (above); Paetow, *Guide to the Study of Medieval History*, pp. 250 f. (note list of bibliographies on p. 259). Advanced students will do well to acquaint themselves with the works of Kovalevsky, d'Avenel, Lamprecht, the Maurers, von Inama-Sternegg, Kaufmann, Babeau, and Levasseur. Abridgments or summaries of d'Avenel's and Levasseur's longer works are listed in Paetow's *Guide*, and of Kovalevsky's *Oekonomische Entwicklung Europas* in the footnotes of ch. III of Miss Irvine's book (above). Gray, Ashley, Lipson, and Prothero (Lord Ernle), listed above, are perhaps as good as anything in English.

CHAPTER VI

COMMERCE AND INDUSTRY IN NORTHERN EUROPE DURING THE MIDDLE AGES

THE FAIRS

When the crusades stimulated the European demand for oriental goods, the first large profits went to Italian importers and distributors, industry coming along later to imitate those goods or provide others to exchange for them. The craftsmen made what was locally demanded, but it was the merchants alone who knew the foreign markets. Craft-made products for local consumption were generally marketed by the craftsmen who made them, both manufacture and sale being controlled by local laws and customs.

Foreign commerce was on a very different basis. Imports from Southern Europe and the East were largely brought in by foreigners, who were charged for trading privileges in fairs and markets, but allowed much latitude as to methods. In the case of great international fairs, such as those of the county of Champagne, practically all the trading groups were foreign to each other, and transactions were ruled by the liberal "international" commercial code, the law merchant. Mediæval Europe was not consolidated into great national states as at present, and a Provençal or Burgundian was a "foreigner" to a Fleming, Norman, Breton, or "Frenchman" (native of the Île de France, about Paris). Even the visiting Italians or Germans from various localities wore distinctive clothes, spoke different dialects, and did not consider themselves fellow countrymen.

The great fair was held primarily for foreign commerce. Merchants gathered at the "international" fairs to purchase the articles not produced in their own respective regions. Lesser regional fairs were used further to distribute these goods, and most towns had their own local fairs for the same

purpose. At the smaller fairs there was more trade in products which did not come from such great distances. Those who came to any fair had to be housed, fed, and entertained, which called for a type of local trade wholly secondary to the main object of the gathering. Fairs had their religious ceremonies as well — many of them had originated in pilgrimages to shrines.

At the outset the overwhelmingly agricultural character of North European life, and the aloofness of the aristocracy from the towns, put these latter in a relatively weak position, so that foreigners were able to dominate the export and import business under protection of the feudal nobles. This tendency was checked by the gradual rise of the gild merchant or local association of traders. The position of these merchants' associations of northern Europe was enormously strengthened when the towns from which they came obtained charters.

The prosperous period of the Champagne fairs lay between 1152 and about 1300, during which time the county was practically a distinct little state. Its organization was loose and typically feudal. 'At the end of the twelfth century, the count had two thousand and seventeen vassals, of whom one hundred and fifty-eight also held lands from some eighty-five other lords. The count himself held the twenty-six different parts of his domain from ten separate overlords, among them the Emperor and the King of France. The most important of the fair towns, Troyes, he appears to have held under the Duke of Burgundy.

So small a region as Champagne was inevitably greatly enriched by the international fairs, which drew trade and fees from all over Europe. As the Italian Menozzi put it: "If the barons of France agreed to let the companies of Italian merchants impoverish their subjects with commercial bargains and even more with money-lending, it was certainly not for nothing; for they did not fail to draw profit from the situation in their turn." The truth of the matter is that the rich harvest in fees which fell into the coffers of the Counts of

Champagne came not so much from their own subjects as from those of remoter regions. The merchants paid the count for the privilege of trading with each other, shifting the charge to the people back home when they resold the goods. All the surrounding counts, dukes, and monarchs were naturally jealous of the fees which little Champagne collected indirectly from their people. They consoled themselves with the money which the lord of the fairs paid them for keeping the converging roads free from tolls, bandits, and feudal depredations.

By about 1300, Philip the Fair of France had so increased his hold upon the counts that the territory was practically under his control; whereupon — due in part to stiffened taxes, fees, and regulations — most of the trade disappeared over the border into the Flemish, German, and Burgundian towns. One other reason for the shift has already been pointed out in Chapter III. Flemish, German, and English towns had grown to such an extent, and deep-sea navigation had been so improved, that the Italian city-states found it more profitable to sail a "Flanders Fleet" around to Bruges and London, meeting the German traders at the former place.

There were six of the Champagne fairs per year, succeeding each other in such a way as to be practically continuous. Each lasted from six to ten weeks. With the opening of the year, the booths were set up at Lagny. Bar-sur-Aube came next. Provins and Troyes had two fairs each to round out the yearly cycle.

Here came together on the greatest possible scale all the exports, both raw materials and finished goods, of the western European lowland and also of the Mediterranean region. The peoples who hawked them were no less heterogeneous. French, Flemish, and Italian merchants predominated, but there were also Germans, English, Spanish, Dutch, and Swiss, not to mention Jews from every land. Eastern Mediterranean, Scandinavian, and Russian goods generally changed hands on the way, being brought chiefly by Italians and Germans. In one of these fairs might be found all sorts of tex-

tiles, drugs, spices, and jewels; metals, salt, leather, and furs; live stock and slaves; besides food and drink, and the odds and ends of manufactured goods which found their way to the eventual consumer in the peddler's pack or the chapman's box. A fourteenth-century illuminated manuscript pictures monkeys scattering the contents of such a pack while its owner sleeps under a tree. Included are vests, caps, gloves, musical instruments, purses, girdles, hats, cutlasses, pewter pots, etc.

To effect the sales and purchases in such an international group practically everything had to be evaluated in terms of money, even in cases where little or no actual coinage changed hands. When it came to dealing with the bewilderingly variegated feudal, town, and national moneys, the Lombard, Caursine, and Jewish bankers and money-changers came to the fore. They brought traders together by exchanging the different coinages or estimating them in terms of each other. Loans were extended at usurious rates, anywhere from twenty to sixty per cent or more, and well secured in the bargain. The standard coin was the local silver *provisino* or penny of the Count of Champagne. Twelve of these made a shilling or *solidus*, and twenty shillings a pound (*libra*).

The shrewd Italian money-changers understood all too well what was to be called Gresham's Law centuries later — that a debased or underweight currency of the same nominal value tends to drive the full-value coins out of circulation. The Lombards began coining a penny of their own, of which the silver was alloyed with copper. With this they captured the Champagne silver money, which they sent home for recoinage. This led to the debasement of the other silver pennies, including the royal *denier* of France, until the situation became so confused that the Florentines went over to the gold standard and began coining the full-value *florin*.

To appreciate fully the difficulties and dangers encountered by these thirteenth-century merchants as they traveled over road or river on their way to and from fairs would involve the perusal of an enormous literature on social condi-

ARTERIES OF MEDIEVAL TRADE
Scale of miles
0 200 400 600
10° Longitude West 0° Longitude East 10° from Greenwich 20°
Bergen
Stockholm
Narva
Novgorod
Nijni Novgorod
Kazan
Moscow
Pskov
Wisby
Smolensk
Kovno
Konigsberg
Dantzig
Hamburg
Lubeck
Brunswick
Magdeburg
Amsterdam
Antwerp
Bruges
London
Carlisle
Berwick
Chester
York
Cologne
Frankfurt-on-Main
Leipzig
Prague
Nuremberg
Cracow
Kiev
Saraï
Astrakhan
Rostov
Orleans
Paris
Troyes
Basel
Strasburg
Augsburg
Vienna
Pest
Buda
Schassburg
Limoges
Bordeaux
Clermont
Chalon
Lyons
Milan
Genoa
Verona
Venice
Marseilles
Derbent
Trebizond
Constantinople
Angora
Toledo
Barcelona
Valencia
Granada
Almeria
Cartagena
Rome
Naples
Amalfi
Ragusa
Tunis
Aleppo
Antioch
Tripoli
Damascus
Beirut
Bagdad
Jaffa
Alexandria
Cairo
Suez

tions at the time. Roads were often bottomless and bridges wanting. Rivers were unimproved and dangerous. Wars closed the trade routes or rendered them insecure for long periods. Bands of outlaws wandered about, especially watching the mountain passes for insufficiently protected merchant caravans or solitary travelers. The petty feudal nobility were often in league with robbers, or little if any better than bandits themselves. Not only did every bridge, ferry, and town gate take its toll, but a swarm of feudal lords and monasteries dotted the roadsides and river-banks, stopping caravans or boats every few miles. The fees thus exacted were nominally for protection, but they look to us more like bribes. There were seventy-four tolls on the Loire River between Roanne and Nantes, or one about every six miles. On the Rhone and Saone there were sixty. The sea route adopted by the Italians to reach Flanders had its own dangers, incident to the small ships, crude instruments, few lighthouses, and the nests of pirates; but these were chosen in preference to the horrors and exactions of the land journey.

Flanders had its cycle of six annual fairs, very much like those of the Champagne. The decline of the Champagne fairs did not strengthen those of the Low Countries so much as it inaugurated a new era in North European town life. Fairs had been largely separated from the towns in or near which they had been held. By 1300, the volume of trade warranted the establishment of permanent markets for the goods internationally exchanged. The Italians began founding houses and branch houses, or leaving permanent representatives, in the northern towns. There were sixteen Italian firms in Paris by 1292, and they were found also in the Flemish cities and at London.

A situation roughly analogous to that which had occurred earlier in the Italian towns was now taking shape in those of northern Europe. Much as the settling-down of Syrian and other Levantine merchants in Italy had led to the organization of rival Italian firms, groups of North European traders were now, in their turn, competing more and more success-

fully with the Italians for a share of the import business. Northern Europe was rapidly developing from an exploited frontier region into a land of trade centers — towns with permanent markets. As orderly governments became consolidated, localities gave up their primitive self-sufficiency and began to specialize more in the products for which they were best suited. The rise of gilds and hanses was notable as early as the eleventh century, and was thus contemporaneous with the great fairs for over two hundred years before the new organizations finally overshadowed the old.

While the great fairs played a decreasingly important rôle in international commerce after about 1300, they did not disappear. Lesser ones continued to be held at Cologne, Frankfort-on-the-Main, Geneva, Lyons, and in more outlying regions like England, eastern Germany, and Russia. England's commercial development lagged behind that of the Continent, and the yearly cycle of English great fairs was less important; but the organization was much the same. The four greatest were at Saint Ives, Boston, Winchester, and Northampton; and the same traveling merchants often visited lesser ones in the intervals.

Every town, and even many villages, had their weekly, semi-weekly, or daily markets, where necessities like local craft products and foodstuffs were exchanged. In the more strictly rural regions, this was the opportunity for villagers to deal with each other. It linked towns or considerably urbanized villages with the surrounding country. Imports figured very little in such markets. The system of local production and exchange was remarkably distinct from that of inter-regional or international economic activity. This latter type of commerce was the primary concern of the gild merchant, which also controlled the export industries as they appeared.

RISE OF GILD MERCHANT AND HANSE

"Gild" seems originally to have meant a payment, especially one for religious purposes; but the word was later ap-

plied also to a place or association for sacrifice. "Hanse" at first signified a heap or collection. It came to mean a number of men, an association, and then specifically an association of merchants. Sometimes it was used interchangeably with "gild." The two gradually came to be distinguished through the application of "hanse" to an association of merchants away from home, and from this to a league of the towns they represented.

In the Frankish laws of Charlemagne's time, associations of merchants for mutual protection were sometimes called *gildonia* or *geldonia*, synonymously with *confratria*. At Cambrai in the eleventh century, such an association was called the gild, though in other places similar ones were called *charitas* or *amicitia*. The *gildæ mercatoriæ* or merchant gilds, which multiplied in northern Europe from the eleventh century, were associations of merchants, mainly in one town. They were primarily for trading purposes, though they had some social and religious functions as well. One of their early sources of revenue was the fees imposed upon outsiders for trading privileges, and this may have had a good deal to do with their organization by towns in the first place.

There is no more hotly controverted subject in all history than the exact antecedents and earliest activities of the gild merchant. Fortunately, it is sufficient for our purpose to recall the outstanding facts about the environment in which such associations appeared. Pirenne argues convincingly that the earliest nucleus of the characteristic trading town of the Low Countries was the *portus* or *emporium* of the tenth century or earlier — the market, as distinguished from the military post or episcopal city which stood by its side. This *portus*, *poort*, or port lived chiefly by commerce. Its settlers were adventurers, fugitives, and other men without the hereditary and customary ties which were so all-pervasive in the surrounding social units. These groups were largely let alone by neighboring lords and abbots because the trade which they kept alive was so indispensable. The fairs came to

them because they occupied the best commercial sites. They traded at the fairs, but remained independent of them.

These early burghers or *poorters* were freemen. Many of them had escaped from serfdom, but who was to reclaim them, as long as they kept still about their origin and remained away from the scenes of their earlier bondage? Moreover, many had come from overcrowded communities where they were actually not wanted, or had been ejected from manors for persistent breaches of custom. Besides the more enterprising itinerant merchants who adventured for themselves, there were boatmen, dockers, laborers, craftsmen, and others who worked for the traders of their own and other ports. This port or permanent market had its own rough-and-ready government, suited to its peculiar needs and turbulent population. Its code was one of the sources of the law merchant or commercial law noted in connection with the fairs. As in every other community, there were leaders, in this case the adventuring merchants who brought in the business and had the bulk of the wealth.

At first, these embryonic towns had no legal status. Princely or ecclesiastical governments within whose territories they lay ignored their peculiarities, taxed them when possible, and made sporadic attempts to enforce current practices about serfdom and the like. For example, there were naturally more men than women in such a settlement; but if a free man from the *portus* married a woman of serf status from some manor, his children were serfs according to manorial custom — or half of them serfs, as it was sometimes interpreted. This was disputed by the trading communities, and by the time they had obtained a recognized status — that is, secured charters and become towns — their free traditions were pretty well established. As a usual thing, if a man dwelt in a town for a year and a day *without any one contesting his right to personal freedom,* he was considered a freeman. Many peasants continued to live in the towns of the Low Countries, and to work for their lords, without change in their social standing as villeins.

As in Italy earlier, the communal revolt in the Low Countries was chiefly against the bishops, though there were clashes with knights and counts also. Back of it lay the fact that the *portus*, *faubourg*, or commercial suburb had outgrown the castle of refuge and the monastery, and by the end of the eleventh century was ready to absorb them, consolidating the whole into a real town. Some merchants had grown wealthy. As early as 1043, one of them built a church at Saint Omer. By force and purchase the towns acquired legal status through charters from overlords. The outstanding features of these charters were the rights of justice and taxation: that is, the towns made and enforced their own laws, and paid their taxes in a lump sum, raising this sum to suit themselves. The town was still in the feudal hierarchy, but as a sort of corporate person. Funds, and not infrequently soldiers, were still furnished to carry on wars, but the counts had lost the right to designate which individuals should fight and pay. In France and England, towns showed a strong preference for royal charters, rather than those issued by lesser feudal lords. The full citizen of a town, dwelling within the walls (that is, in the *bourg* or *burg*), and protected by the corporate charter from direct, personal subjection to feudal law, was called a "burgess."

The gild merchant was usually more ancient than the chartered town. It was often this group of commercial leaders which furnished the funds (*firma burgi*) for buying up rights of taxation and justice. Gildsmen and burgesses or citizens were not identical groups. Some resident lords of near-by manors, though citizens, had little interest in export and import trade, and hence did not belong to the gild of merchants. On the other hand, resident ecclesiastics, who were under the canon law and could not become citizens, often belonged to the gild merchant. Some of the important craftsmen were at first admitted also, and foreign merchants, citizens of other towns, were sometimes taken into the gild. Nevertheless, most of the burgesses were gildsmen, and most of the gildsmen burgesses. Especially where the personnel

was nearly identical, such overlapping must often have confused the action of the two bodies in practice, and the distinction between gild merchant and town government is sometimes obscure in the records.

Closely associated with the development of both fairs and merchant gilds was that of hanses. The two most important were the Flemish Hanse of London and the Teutonic Hanse or Hanseatic League — also known as "The Easterlings."

The Flemish or London Hanse was the first of these to achieve a definite organization. It appears likely that at the outset this hanse was simply the gild merchant at Bruges, the most important city of Flanders. In some respects it was a league of cities, in others more like an association of the merchants of the cities — or even of the merchant gilds, since every member of the Hanse had first to become a member of the gild merchant of his town. Moreover, all the higher municipal officers of the towns had to be members of the Hanse. The Flemish Hanse was gradually consolidated during the second half of the twelfth century to control the profitable trade with England. It was later expanded from seventeen to fifty-six towns, many of them beyond the boundaries of Flanders. Ypres, Lille, Ghent, Douai, Arras, Cambrai, Abbéville, Saint Omer, Beauvais, Caën, Troyes, Amiens, and Rheims were among the most important. Fine manufactured goods, such as cloths, armor, and glass, were exported to England, and wool was the most important single item brought back.

This group traded extensively at the Champagne fairs, and attained so complete a monopoly over the commerce with England that the officers were empowered to seize the property of any non-member who infringed. Monopoly was not, however, the sole aim. Standardization of goods and protection against fraud were also provided for.

The Count of Flanders had no direct authority over the Hanse. Its chief officer was called the "Count of the Hanse," and was elected by the merchants of Bruges. Ypres

usually furnished a sort of second-officer, called the "Standard Bearer." The court which tried cases within the Hanse's jurisdiction was composed of eight judges from Bruges, four from Ypres, and either one or two from each of the other towns.

As England developed economically, a group of English "Merchants of the Staple" or "Merchants Staplers" began a partially independent export business. The Staplers, who first appear as a company in 1267, got their name from the four "staples" (French *Étapes*) or distributing stations which they set up on the Continent at Calais, Bruges, Antwerp, and Dordrecht. By the fourteenth century, the English were exporting considerable quantities of salt meats, dairy products, leather, tin, and lead, in addition to wool. For a time the Staplers and the Flemish Hanse worked together, the English company controlling staple exports, the Flemings looking after imports into England. The member cities of the Flemish Hanse got into serious social and political difficulties at home. The organization disappeared from view after a long decline, being overshadowed by the Staplers. In 1354, the latter definitely organized to take care of the functions of both. Each of the ten or twelve staple towns on both sides of the Channel was to have a "Mayor of the Staple," elected by the native and foreign merchants. In addition to keeping order and enforcing justice, this mayor served as a go-between, looking after the interests of the English King and treasury on the one hand, and those of the foreign merchants on the other.

With changing times the Staplers were finally eliminated in their turn. English woolen manufacturing increased, changing the character of the export trade. Calais, the continental staple town after 1363, was captured by the French in 1558. The staple was then moved about from one town to another until it finally sank to insignificance in the seventeenth century, the Staplers having been gradually replaced by the Merchants Adventurers. These were all Englishmen, dealing in finished goods, especially cloth, rather than in raw

materials, and not bound to any one staple or distributing center.

Cologne merchants had traded in England since early times — even before the days of the Flemish Hanse. They had a flourishing trading post or factory at London before the organization of the Merchants Staplers. It was later known as the Steelyard. Hamburg, founded by Charlemagne at the beginning of the ninth century, was also trading extensively with England by the thirteenth. Lübeck, founded in the middle of the twelfth century, soon developed an important commerce in the Baltic. Wisby, on the island of Gothland, had long been the center of the Russian trade with Germany, and had a branch or factory at Novgorod. The merchants of a number of German cities settled in the old Norse town of Wisby and their coöperation in a foreign land gradually drew together the towns they represented. Hamburg and Lübeck formed an alliance which cannot be definitely dated, but seems to have existed in the twelfth century. Bremen joined later. The Hanseatic League was at first a union between this group of coast towns, the Rhineland group led by Cologne, and Wisby, with its Novgorod factory. Inland towns were gradually drawn into the League, as the most promising opportunity for securing law and order, the Empire being excessively weak at the time. Brunswick exercised a sort of leadership among these. Dantzig in the east became the center of a final group which, together with Lübeck, overshadowed Wisby.[1] The four divisions of the League at its height were thus led by Lübeck, Cologne, Dantzig, and Brunswick.

Contacts were established with Italy over the Alpine passes, and especially through the great counter at Bruges. Besides this counter in the commercially organized West, there were three great factories or trading posts in backward lands, at London, Bergen, and Novgorod, respectively, and

[1] The German townsmen thus gradually encroached upon the ancient Norse monopoly of trade between the Baltic and Black Seas, finally superseding the Scandinavians entirely.

some twenty-eight minor stations. Pirates and robbers were sternly repressed, and the strictest discipline imposed upon members. The Hansards were nothing if not pious — perhaps because it was good business, in part at least, and simplified discipline in settlements abroad. They built magnificent churches, enforced celibacy among their agents, and suppressed profanity on ship and on shore under the severest penalties.

Great secrecy surrounded the organization and operations of the League. No list of member cities was ever published, but we know now that some one hundred and fifteen places were connected with the Hanse at one time or another. There was no visible executive, yet great armies marched and swift vengeance fell upon recalcitrant members. Kings of Denmark were twice defeated, and the Hanseatic power over southern Scandinavia, northern Germany, and the Baltic was made practically supreme. Four burgomasters of Halberstadt were executed for disobeying regulations. One force of twelve thousand men is mentioned. Lübeck was a sort of chief city, and it was here that the triennial diet after 1260 was usually held.

The three great sources of Hanseatic wealth and power were the English trade and the two monopolies over Russian trade and the fisheries of The Sound (between Sweden and Denmark). From the twelfth century to about the middle of the sixteenth, shoals of herring moved through this narrow neck of water southeastward to spawn in the Baltic. The projecting hook of Scania, in southern Sweden, was an ideal place to catch them. Repeated wars with Sweden and Denmark were waged to retain unhampered control over this key position. The Sound being difficult to navigate, goods for the Baltic went to Hamburg and through the ship canal which connected that city with Lübeck.

The Protestant Revolt at the opening of the sixteenth century hurt the market for fish, amber, and wax for candles. About the middle of that century, the herring suddenly began spawning in the North Sea instead of moving to the Baltic, so

that the long feud between Germans and Scandinavians was transferred westward to the Dutch and English. Russian consolidation had already begun under Ivan the Great (1462–1505). The German commercial monopoly was soon undermined by English and Dutch traders, as well as by direct aggressions on the part of the Russian Emperors. Ivan the Great captured Novgorod in 1471. It was finally reduced to a village by Ivan the Terrible in 1570, who had thousands of the inhabitants massacred and banished because of secret negotiations with his Polish enemies. Wisby was practically abandoned, and is now a mass of ruins.

Some three thousand German traders were settled at Bergen, where they enjoyed a practical monopoly of the Norwegian export trade in timber, hides, and fish. It was also a stronghold from which to attack North Sea pirates and commercial rivals. Ships sailed from this port to Iceland, Greenland, and the Arctic regions generally. Bergen asserted its independence when the Hanseatic League had become weakened by the rise of modern states, overseas trade, and new business methods. Of the four great counters or trading stations abroad, it alone preserves anything like its mediæval appearance.

The Steelyard was a fortified enclosure just west of London Bridge, with a frontage of about two hundred feet on the Thames and extending back to a depth of some four hundred feet. There were similar but smaller stations in Boston, Lynn, and other English towns. Edward III (1327–77) was deeply indebted to the Hansards for loans and assistance in his wars against the French. This situation was used by the League to gain further concessions and exemptions, which brought the Germans into sharp conflict with the rising class of English merchants. In the fifteenth century, the League was exporting some forty times as much English cloth as was sent out in English ships. Its capital was invested in a variety of commercial and industrial enterprises, such as the tin mines. German factors had a jurisdiction over their own people thus planted in a foreign land, very much like that

enjoyed by Europeans in recent times in backward countries such as Turkey and China. English merchants complained of this, of their exclusion from the Baltic trade, of the force sometimes resorted to by the Hansards to prevent the extension of English commerce, and of the special League privileges in general. The Treaty of Utrecht in 1475 between the League and the English King compromised on the question of extra-territorial justice, but transmitted the sites of the factories in England to the Hansards in absolute property and fixed the figure of the debt to the League at fifty thousand dollars to be collected by remissions of duties.

The charter of the League was withdrawn by Edward VI in 1552, but restored by Mary two years later. Finally, the Emperor Rudolph expelled the English Merchants Adventurers in 1597, and Queen Elizabeth retaliated by closing the Steelyard the following year. The *Kontor* at Bruges had suffered from the decline of that city's commerce in the fifteenth century, as the harbor silted up and the routes of trade shifted. Lübeck's war with the Dutch in 1438 led to their temporary secession from the League, and they withdrew finally at the close of the century.

Germany had a brief period of great prosperity just at the close of the middle ages. Large banking houses, such as the Fuggers, were rising in German cities, and some merchants were devoting themselves exclusively to what we call wholesale trade. While the Germans, especially through the Hanseatic League factories, did a most important work in establishing the best business methods on the frontiers of Europe, their enormous power was largely founded upon the weakness of others. Their organization was efficient, but their general policy was narrow. Many of the cities clung to the League merely as the lesser of alternative evils, the imperial authority in Germany being weak to the vanishing point. The peoples the Germans exploited learned rapidly from them, eventually breaking the monopolies without which Hanseatic dominance could not continue. Already reduced to a shadow of its former greatness by foolish wars and

obstinate persistence in outlived policies, the League finally went down in the general destruction of German prosperity during the Thirty Years' War.

Besides a southern European trade in wine, salt, oil, fruits, silk, sugar, and the usual oriental goods, the Hanseatic League dealt in practically all the products of northern Europe. Furs, hides, leather, grain, and wax were collected at Novgorod from the interior of Russia. For these were traded woolens, linen, metal manufactures, salt, wine, and beer. From the Scandinavian lands came timber, iron, copper, furs, live stock, blubber, fish, meat, and grains. In exchange for these went more finished foodstuffs, cloth, wine, beer, manufactured wares, and the usual southern European imports. The great exports from England were wool, leather, hides, and tin; the main imports in exchange were manufactured goods, herrings, and wax. The Hansards poured into the Netherlands all the raw and finished products of the North and East, taking in exchange both the local raw materials and manufactures and the Mediterranean goods brought by the Flanders fleets.

FUNCTIONS OF THE GILD MERCHANT

The gild merchant which existed in nearly every one of these trading towns is not to be confused with the municipal government; but it exercised very important functions under that government and wielded great influence over the town officials, particularly the burgomasters and sworn men to whom financial matters were more and more delegated. As stated above, in many towns some officials had to be members of the Hanse or league of towns, and such membership was open only to those of the gild merchant, so there was overlapping of authority. The gild merchant always looked after foreign commerce. It supervised the crafts until they grew powerful enough to form chartered organizations of their own. Even then, the craft output for export had to conform to the requirements of those who had a monopoly over exporting, and many of these particular craftsmen were not financially independent of the exporters.

That craft gilds finally secured a large voice in local regulations was due not so much to a revolt against the gild merchant as to the division of an enormous and irksome task. Craftsmen had a more detailed knowledge of their own particular products, as well as greater facilities for imposing the uniformity desired by all. In addition to its purely economic functions, and to assist it in performing them, the gild merchant was given a quasi-legal jurisdiction over its own members, particularly in commercial matters.

The North European urban communities were small and highly dependent upon the surrounding country for a living at the time their merchant gilds were formed. Church, lay government, and agricultural institutions were older than the town, and peculiarly distinct from it. Its most striking economic feature, as Pirenne remarks, was its sterility. It had neither serfs nor estates to give it a direct claim upon the produce of the soil, without which it could not live. Food could be obtained from lords or peasants only by voluntary exchange of imports or manufactures. To keep down the price of food and bolster up that of the articles exchanged for it, the association of merchants had to prevent the appearance of independent middlemen. The peasants brought their produce to the market and sold it direct to the burghers. No one was allowed to keep a surplus, or to buy wholesale for trade until local needs had been met. Many towns imported food, such as grain or fish. It was much more difficult to control the prices of such imports than of local produce. Individual monopoly was prevented by forcing the importer to share his purchases with fellow gildsmen. The townsmen had some protection from excessive prices, but there was little regulation of a type calculated to protect the peasants from low prices.

Other imported merchandise besides food was dealt with in much the same way. No one was allowed to forestall — that is, for example, to go out and meet an incoming ship in order to purchase its cargo before it had been on the open market. Engrossing, or attempting to corner the supply of a com-

modity, was forbidden, as was also regrating, or buying merely to sell again at a higher price. Not only were these regulations enforced, subject to fines and punishments, but their breach was rendered doubly difficult by the right of fellow gildsmen to share in the bargain. In some places this right existed only if the gildsman making the demand was present at the original purchase, but in others even those not present could claim a share. The idea was to keep prices down, to guarantee equality of opportunity, and to prevent the rise of a class of non-producing middlemen.

The mediæval idea of a "just price" was not very different from our modern notion of the cost of production. For example, the assize of bread and ale — the fixing of weights or quantities and prices of these staple articles of diet — took place at least four times a year, oftener if conditions called for it. This duty usually devolved upon the presiding officer of the gild, assisted by other gild or town officers. Fluctuations in supply and other special conditions were taken into account, and an honest attempt was made to arrive at fair prices in view of the economic situation at the time.

Such a monopolistic institution served the needs of small places very well. During the early history of the gild merchant, the northern European town drew its living chiefly from the surrounding country, exchanging mainly local craft products for its food and raw materials. The volume of export and import trade was small enough that a single gild could care for it and yet have time to look after other matters such as craft supervision. By the time towns of twenty, thirty, and forty thousand inhabitants appeared, however, this was no longer the case. The mere increase in the amount of commerce brought its own difficulties, aside from changes in the character of the trade. The use of money was gradually introduced into the countryside, and mining and trade increased the supply and circulation of precious metals. Servile dues were commuted, ideas of profit and surplus crept into agriculture, and communications were improved. The peasant's bargaining power increased with the money in his

pocket, his choice of markets, and the growing needs of the towns. Prices rose as the quantity of coinage and the rapidity of circulation grew, always to the advantage of the villager who had converted his services to fixed payments at a time when money was scarcer and harder to get. Grain was grown increasingly for export, and marketed through middlemen who inevitably bid against each other.

As the towns grew, the craft groups increased in number and complexity. Two or three weavers in a place were easy enough to supervise, and might show little inclination to unite; but it was quite different with forty or fifty. The craftsmen who made goods for merchants to export gradually became hired laborers, but those who produced for the local market formed gilds of their own and escaped from the supervision of the gild merchant. Since the local market remained by far the most important in most of the towns of northern Europe, the craftsmen who supplied it were more numerous, and their coöperative gilds for the regulation of production and sale may be said to be typical. In such highly industrialized regions as Flanders, however, especially in the fifteenth century, the wage-earning proletariat of many of the towns was large. Manufacture for export, like export and import trade, being carried on with considerable capital, the moneyed aristocracy tended, like the working classes, to split up into specialized groups. In such towns, a complicated gild hierarchy appeared, not very different from that of the Italian cities, and there were similar class struggles for control of the municipal governments. This tendency was not conspicuous in England because England had few great exporting industries in the middle ages, and much of her foreign trade was carried on by continental merchants. She stood in somewhat the same economic relationship to the Flemish and German towns that the Balkan States have to Germany in the twentieth century.

The strong central governments of northern Europe, dominated by the landed or country interests, checked the formation of city-states. Flanders went farther in this direction

than the rest of northern Europe. Even here, central authority finally prevented the dominance of capitalists like the Medici of Florence, and some incipient groups of towns under a single one were broken up. In the absence of opportunity to become local oligarchs, the wealthy *élite* of the northern European towns came to prize citizenship above gild membership. Unable to control other towns or wide country districts, the northern cities adjusted themselves as coöperating units in the larger states. Burghers expended their energies toward the elevation of their class in the councils of states instead of consuming them in local rivalries. The hanses had played an important part in establishing habits of coöperation.

GROWTH OF CRAFT ORGANIZATIONS

Up to the eleventh century, most of the craftsmen of northwestern Europe had been serfs, working for clerical or lay lords either in their own cottages or in the households of the latter. Few different kinds of goods had been produced, most of these for local consumption.

The town was an economic fact before the recognition of that fact in charters. Some artisans had collected in these embryonic urban communities, and had begun to work for the traders under non-servile conditions. The acquisition of legal status by the towns and the increased activity of the gild merchant merely brought to a focus tendencies in the crafts which had already appeared. The stimulus to commerce born of the crusades exerted its northward pressure almost immediately. Craftsmen in ever-increasing numbers copied the goods which commerce brought in, soon discovering that they could make many of them cheaper and better.

The typical artisan owned his tools. After the break-up of house industry, carried on by unfree craftsmen, the small workshop of the freeman became the typical establishment. Sometimes the artisan bought the raw materials; sometimes he worked up those of the consumer. It depended upon the nature of the particular craft and the local conditions.

Not infrequently the same craftsman worked on both bases for different customers. For instance, a chandler (candle-maker) would sometimes work up a quantity of grease for one man at odd times between his other orders, for which he used his own. A modern example of the same thing is the tailor who makes suits either from his own cloth or from that furnished by customers.

The master was a small-scale *entrepreneur*, owning his tiny plant, maintaining and teaching his apprentices, hiring his journeymen or trained assistants, and selling his finished product. Several means of selling were open to him, in addition to receiving orders for goods to be made up. Sometimes he sold his merchandise from the front of his workshop, above or in the rear of which he probably lived. Sometimes he carried his goods himself to the public market. Even a craftsman like the chandler, who worked chiefly for the local trade, might sell some of his wares through a merchant to the fairs or markets outside.

As the demand became larger and more varied, the technique more elaborate, crafts tended to split up into specialized parts. For instance, one craftsman would make only one of twenty different kinds of woolen cloth, or would carry on only one of a number of distinct operations such as spinning, weaving, or dyeing. This did not lead, as in modern times, to any great industrial concentration, except in a few localities where a limited number of products were made almost exclusively for export. Generally, the division and subdivision of labor merely multiplied the number of small enterprises.

The Low Countries were the outstanding exception in northern Europe. They were directly affected by the greater industries of southern Europe, such as the Calimala at Florence, which bought Flemish fabrics and often refinished them. At Ypres from the thirteenth century, one hundred and forty drapers (wholesale dealers in woolens) centralized the control of the woolen industry. They controlled the output of the smaller shops and set up something like the domestic or

putting-out system which became general only in modern times. There were very few big central shops, however. The capitalists sometimes owned the tools, but whenever possible they preferred to leave the worker in his small place, with his own tools, and merely to control his purchases and sales from a central agency. Only the control was concentrated, not the industrial processes themselves. Some examples of this type of organization were found not only in the Low Countries, but in the Rhineland and northern France as well. They were not typical. Remembering that they were there all the time, we may leave them to one side in the discussion until we come to the reasons for the decay of the mediæval system.

In the early days of the gild merchant, craftsmen were often admitted to membership. They may even have constituted half or more of the fraternity at some places and times. The word "merchant" did not have its present significance. Often the merchant was little more than an itinerant peddler or chapman, or an enterprising master craftsman who bought and marketed far afield. So starved for free enterprise were the middle ages that the men who had the energy and ingenuity to carry on trade soon became specialized to it. The merchants became a class apart from and superior to the craftsmen in the social order.

When the number of fellow townsmen plying a single craft (art, mistery — French *mestier* or *mêtier*) became considerable, there was an irresistible tendency for them to work together in the interest of that particular craft. This led to the formation of separate associations of gilds of craftsmen. The minute regulation of industrial processes soon became too complicated and technical for the gild merchant to look after, so the details were turned over to the craft gilds.

The relationship between craft gilds and the general gild merchant was not everywhere the same. In some instances, important crafts merely split off from the gild merchant, but the historical process was not usually so simple. As the merchants became specialized to trade and amassed wealth, their

associations grew more aristocratic. Increasing numbers of craftsmen were excluded. The craft organizations were forced into existence by an enormous expansion of the crafts, accompanied by a relative numerical shrinkage in the gild merchant membership. Most of the craft gild charters were in no sense derived from the gild merchant, but were granted directly by municipal or other governments. This raised the possibility of clashes of authority. If the municipal government had been everything, as in Italy, similar struggles to control it would have been inevitable. There was a great deal of such friction when and where the central authority was weak — particularly in Flanders and parts of Germany.

APPRENTICESHIP

The best single key to the understanding of craft organization is found in the system of industrial and social education. Apprenticeship was designed as a real training for social usefulness as well as for craftsmanship. A master craftsman's son had the right to follow the trade of his father, but only after thorough preparation. He might be apprenticed out to another master or get his training in his father's shop. In some cases he was allowed to succeed his father or set up a shop of his own, aided by competent workmen, before he had fully satisfied the gild wardens of his maturity and expertness; but such probationary mastership was exceptional. As a rule, the master must be twenty-three or twenty-four years old, and have passed through an apprenticeship of from three to twelve years, depending upon the locality and the difficulty of the trade. In England, the commonest length was seven years. At Paris, a glass-cutter must serve ten years and a maker of paternosters twelve. A man's craft was literally his art — hence the name "artisan."

The length of apprenticeship seems excessive at a glance, but it was probably due mainly to a desire to guarantee proficiency. Empirical methods made the learning process, as well as the work itself, long and stereotyped. The mediæval craftsman commonly had to make his tools as well as his

final product. Metal-working and alloying, for example, were tediously carried on by rule of thumb. There was a large use of the precious metals in the form of plate rather than coins, so that adulteration or debasement was difficult to discover without damaging the articles tested. Hence it was usually forbidden to make plated or filled articles of gold and silver. The exact fineness of the metal was hard to regulate except by making sure of the integrity, as well as the skill, of the master. The same problem arose in connection with mixtures of yarn in textiles, such as linen or wool with silk, and such practices were usually forbidden. Craftsmen were not allowed to use colored glass in place of jewels, even when no attempt was made to deceive the original purchaser; and we repeatedly find records of such prohibitions as the ornamenting of bone articles with gold and silver, lest the bone be passed as ivory.

In the absence of large-scale production, grading, and sales by sample, quality could be assured only by insisting upon certain moral qualities in the producers. The system of apprenticeship looked after this on the constructive side; gild supervision made sure that it had been achieved by checking up the actual work and the product. In the interest of thoroughness of technical and moral instruction, as well, perhaps, as of the regulation of output, the number of apprentices a master might take was usually restricted. The maximum number varied with the time, place, and trade. Sometimes, especially late in the middle ages, no limit was imposed.

The apprentice lived and worked with the master and his family, under a contract or indenture. Thus, one John Goffe apprenticed himself in 1459 to John Gibbs, of Penzance, Cornwall, for eight years, to learn the fishing trade. He was to work faithfully for Gibbs and his wife, protect their interests, and see that their goods were not wasted. In return, they were to teach him the trade, find him suitable food and clothing, "chastise him duly" when necessary, and finally to pay him twenty shillings sterling "without any fraud." If an apprentice ran away, he could be brought back and

punished. Repetition of the offense led to his permanent debarment from the craft. On the other hand, masters who abused or neglected their apprentices were liable to punishment. In aggravated cases, the craft might take away a badly treated apprentice, or even impose a fine upon the master. Masters were forbidden to take away each other's apprentices without free surrender, proper compensation for training already given, and gild permission.

Other elements entered into the limitation of the number of apprentices, though the assurance of good work and proper training was in general the most important. There was naturally some desire on the part of the masters and journeymen (wage-workers who had finished their apprenticeship) to avoid competition by keeping down the number of entries into the craft. In the later and more monopolistic days of the gilds, considerable fees were sometimes charged for entrance into mastership, and great discriminations made between the sons of masters and others. In line with the personal qualities sought, German towns commonly barred illegitimate children from apprenticeship to gilds, and known scurrilousness of character everywhere militated heavily against the candidate. Sometimes, especially at the close of the middle ages, the applicant for mastership was obliged to prove his fitness by producing a "masterpiece," which was not, however, excessively difficult as a rule. The cobbler might be required to repair three shoes in a workmanlike manner, the saddler to make a cheap but acceptable saddle, etc. In crafts such as gem-setting, where the apprenticeship was long and the standards of artistic excellence high, the masterpiece would naturally be more difficult. In spite of exceptions, it is safe to say that when the mediæval economic system was at its height, entrance into the various craft gilds was restricted by little except the merits of the candidates. The central governments of northern Europe frowned upon any local tendencies toward monopoly which might raise prices or restrict output. Matters like excessive fees were gradually brought under the jurisdiction of the royal courts.

JOURNEYMEN

Having passed through the requisite years of training and satisfied the gild wardens as to his skill and integrity, the French apprentice ordinarily became eligible to mastership if he could raise the capital. A master's son might go into or take over his father's shop at once. As industry developed and the requisite amount of capital increased, it became more generally customary for the candidate to work for wages during a further period in which he accumulated funds and experience. In England, this was commonly compulsory, the candidate not being admitted to mastership until a period of two or three years had elapsed since the completion of his apprenticeship. This was the German *Wanderjahr* ("wanderyear") during which the graduate apprentice picked up the secrets of other places and masters. The English word for these workers was "journeymen" (French *journée* = day); the French called them by various names, such as *compagnons*, *varlets* (*valets*), and *locatifs*.

The seeds of the eventual overthrow of the craft system lay in the relationships between masters and journeymen. There was always the danger that the more enterprising masters would enlarge their businesses, become mere employers of labor and overshadow the lesser producers. They would then have no time properly to train apprentices. From their own point of view, this difficulty could be gotten around either by hiring journeymen who had already been trained, or by so subdividing the work that one workman needed to understand only a part of it. Either solution, if generally adopted, would create a permanent class of wage-earners — that is, a group of journeymen who never became masters. The democracy of the gild would inevitably be destroyed, as the class which owned the tools and gave the orders would certainly set itself socially above the class which did the work. This is what occurred in the long run.

There was no class distinction between master and journeyman at the height of the middle ages. They worked side by side at the same tasks, the gild fixing their respective re-

munerations. For example, a London master tiler of the fourteenth century was paid five and a half or four and a half pence per day, depending upon the season, while his journeyman helper got three and a half or three. The journeyman would be a master himself within two or three years. Real class lines did not appear between the two until this regularity of promotion had been broken down. Social classes, properly speaking, must be founded at least partially upon the principle of heredity. The old merchant gildsmen had already become a narrow hereditary aristocracy. A son inherited his father's social position with his wealth, just as country aristocratic families handed down their social class with their lands. When large amounts of capital began overflowing into industry, a new industrial aristocracy grew up, based like the others on the control, and especially the inheritance of control, of property. Unlike a master's son in the heyday of the craft gilds, the son of the new specialized employer did not have to prove his technical and moral fitness to a group of wardens before he took over his father's business — birth was sufficient. No matter what the skill or moral worth of a journeyman, he found it hard to amass sufficient property on one lifetime to admit him to the employing class. Instead of looking forward to mastership as the natural and fairly certain reward for meritorious effort, the journeyman generally remained in a lower class of permanent wage-laborers. This had been true of the exporting industries almost from the beginning, and was merely *extended* as *trade* increased. "Commerce dominated industry during the middle ages."

NATIONAL GOVERNMENTS AND GILD EVOLUTION

The Six Gilds of Paris occupied somewhat the same position as the seven greater gilds of Florence. As in many other of the larger cities of northern Europe, the gilds here showed the same tendency toward hierarchy as in Italy. It is interesting to note how the central governments fixed limits to this tendency.

A class war between the common people and the rich which

broke out at Beauvais in 1233 immediately attracted the attention of King Louis IX of France. Instead of allowing the struggle to run its conventional Italian course, the King imposed a mayor from the outside. When the official was disrespectfully treated, a royal army razed the houses of all the leaders and threw fifteen hundred men into prison. In the long run, the French crown made good its persistent claim that all the towns in the realm were royal towns, and owed direct allegiance, whether situated in the royal domain or not. Étienne Marcel, Provost of the merchants of Paris, seemed on the verge of getting control of the French Government in 1357, but the Dauphin escaped, called a rival parliament at Compiègne, and successfully played the rural aristocracy against the gilds. The London gilds figured in the peasant revolt of 1381, but their allegiance was divided and there was never any serious danger that they would get control of the city government.

English towns had always been kept pretty well in leash by the central Government, but the French kings had to play a very astute game to get theirs under control. They made the most of the feuds between towns and nobles, the bourgeois class and the Church, and the various social classes within the towns themselves. The ecclesiastics often sided with the lay nobles against the townsmen, as, for example, at Laon in 1294. On this occasion, two lay nobles and a Church dignitary were dragged through the streets and so severely beaten that one of them died in the jail into which they were later thrown. As the result of a feud with his townsmen, the Bishop of Beauvais gave up his own city to fire and sword at the hands of armed bands in 1305. The history of Soissons is one long series of conflicts between the townsmen and the cathedral chapter.

In their attempts to get control of the towns, the French kings sided indifferently with nobles or burghers when the two quarreled. When social wars broke out, the kings took the part of rich or poor, as seemed expedient. The Church put them in a much more serious dilemma — one they finally

had to take by the horns. If they sided with either bishops or burghers when the two fell out, as they frequently did, the effect was to strengthen one or another of two groups which the Government earnestly desired to weaken.

At the close of the thirteenth century, both Edward I of England and Philip the Fair of France began a frontal attack on the economic position of the Papacy by levying taxes on Church property. Pope Boniface VIII protested in the famous bull *Clericis Laicos* of 1296, forbidding the clergy to pay taxes to states. Edward threatened to outlaw the clergy, and to withdraw the protection of the State, if the bull was obeyed. Philip's methods were less spectacular, but more dextrous and effectual. He stopped the export of money, jewels, food, and military supplies from his kingdom, and ordered all foreigners to leave. This made it impossible for the Pope to collect his revenues in France, and forced a host of rich Italians to return home without money or jewels, leaving their debtors and their business behind. The Pope hastened to explain away the most objectionable features of the bull, and he and Philip patched up a truce.

King Philip soon proceeded by a series of master strokes to rid himself entirely of Church opposition to his policy of national consolidation. The issue was directly joined when the Viscount of Narbonne did homage to the King instead of to the Archbishop of Narbonne for his territory. In this same year (1301) Edward I got his parliament to repudiate a papal protest over the occupation of Scotland. This idea appealed to Philip, so in 1302 he called together the first general French parliament (Estates General), which included burgesses from the towns. After assuring himself of the moral support of this group, he sent an agent to Anagni, in Italy, who insulted Boniface and even attempted to kidnap him. The Pope was rescued by the townsmen of Anagni, but died a month later. Philip proceeded, in 1305, to capture the Papacy itself. A French Pope was elected, the See was moved to Avignon on the Rhone, the College of Cardinals was packed with French supporters, and for over seventy years the Church remained

in what is known as the "Babylonian Captivity." The new Pope allowed Philip to destroy the Order of Knights Templars, one of the great financial organizations of the time, and to confiscate its property in France. The Church was greatly weakened by the "Babylonian Captivity" and by the great schism into three parts which followed. By the "Pragmatic Sanction of Bourges" (1438), the French clergy were guaranteed freedom of election, and all right of appeal to Rome from French courts was abolished. This had occurred in England long before, by legislation and decree. The growing economic supremacy of national over papal government furnished one of the most characteristic trends in the development of northwestern Europe.

Admission of burgesses into the national parliament was only one of the royal methods of wearing down town autonomy. One of the chief popular complaints against the moneyed ruling class was the maladministration of finances. Towns were falling deeper and deeper into debt. Many budgets which have come down to us had chronic deficits, and the total indebtedness was often enormous. The central Government aggravated the economic difficulties of the local authorities by allowing appeals from their decisions to the *parlement* or central court, by interfering with administration and elections, and by the imposition of heavy fines for the slightest infringements of laws or rules. Finally, staggering under their burden of debts and fines, torn by class strife, tormented by a cloud of royal functionaries, the towns one by one went through a general liquidation of the old autonomous system. At the threshold of modern times, a real French nation arose out of the ruins of town economy as well as of feudalism.

In the Flemish towns, the gild strife was given a political and international cast by the Hundred Years' War between England and France. The cloth merchants of Ghent, led by Van Artevelde, sided with England, whence came their wool and unfinished cloth. The Counts of Flanders had leaned more and more toward France, but there had long been bad

blood between the Flemish townsmen and the French Crown. A French army had been routed at the "Battle of the Spurs" in 1302, the victorious townsmen picking up seven hundred gold spurs on the battle-field. The new counts intermarried with the French nobility and soon lost the fruits of victory. Count Louis called in a French force to help quell a new revolt in 1328, with the result that the popular soldiery were annihilated. The time of the lower-class bowman or musketeer who could meet the mailed knight on equal terms had not yet come.

Both the French king and the Flemish burghers feared the outcome of an appeal to arms, and Flanders would doubtless have remained neutral in the impending war between France and England had not the count deserted to the French. All the burghers had really aimed at in their dealings with England was assurance of continued commerce, without which the Flemish towns must suffer from unemployment and famine. The aims of Edward III were probably not so simple or defensible. Van Artevelde and his followers were placed in a dilemma by the count's flight. Lower-class support could not be counted upon with the "legitimate" ruler in France. As a piece of war propaganda, Edward was persuaded to assume the arms and title of the King of France, to which he had a shadowy claim through the female line. The idea was that he could then legitimize Van Artevelde's Government, denounce Count Louis as a traitor, and thus hold the allegiance of the lower classes. A move was made to install the English royal heir as Count of Flanders; but the rich gildsmen violently opposed this as likely to end in economic absorption.

Van Artevelde's new government was based on three economic groups: (1) the "Old Citizens" — including both the rich gildsmen and other old families; (2) the weavers, a newly organized, powerful middle industrial group; and (3) the lesser gilds. This strongly suggests the social stratification of the Italian towns.

Not only were there two radically different economic sys-

tems in the towns of Flanders and Brabant, as suggested in a previous paragraph; but these often existed side by side in the same places. Crafts producing for local markets were organized much the same as elsewhere in northern Europe. Among the export industries, which were characteristically different, metal goods and woolens stood out. Metals in particular, because they are so unevenly distributed over the earth, have always constituted the one type of article which must be exported and imported in any age, no matter how stagnant or local its economic organization.

The valleys of the Meuse and its tributary, the Sambre, had the most highly developed metal trades in mediæval North Europe. The manufacture of copper ware for export of Dinant, and of hardware, cutlery, and weapons along the Meuse were organized on a totally different basis from the smiths who served the local trade. This statement holds equally true for the great exporting merchant drapers in the cities of Flanders and Brabant, as compared with the local cloth industry.

In these export trades, the distinction between employer and laborer was sharp. Employers and often employees as well were grouped in gilds, it is true, but the actual workers were day laborers, often owning nothing but the clothes they wore. They lived in hovels hired by the week, and starved, begged or wandered about in search of work whenever crises or personal misfortunes deprived them of their wages. Their daily grind started and stopped at the sounding of a bell; they drew their pay Saturday nights, and were held in contempt as "blue nails" by the more fortunate classes. The employer furnished the raw materials, and often the tools as well, and he alone knew anything about the market for the goods. Even the infamous "truck system" of some modern company towns was sometimes in evidence, the workmen being paid in goods of such quality, and at such prices, as the employer might elect. The one characteristic of the early nineteenth-century factory system at its worst which was wanting in the Low Countries at the close of the middle ages was the concentration in large shops.

The employers were capitalists in the strictest sense of the term. Iron was mined at Namur, but was also imported from Germany, France, Spain and the island of Elba in the Mediterranean. Raw copper came from Germany, Spain, Italy, or Derbyshire in England. England was also the great source of lead, furnished the bulk of the wool for Flemish looms, and was rivaled only by Bohemia in the export of tin. The capitalists of the Low Countries, organized into great monopolistic gilds, imported raw materials and shipped out finished goods almost without any government restrictions as to quantity or price. The laborer who made up these goods was not himself a commodity — that is, a slave — but his labor was, which amounted to pretty much the same thing, since the Government gave him practically no protection. He could starve or work on terms fixed by an organized group of employers who alone had access to materials, markets and, in many cases, tools (especially where hydraulic power was used, or the plants were expensive — iron furnaces, for example). In their misery, the laboring classes overpopulated, so that their labor became a drug on the market, and they were sternly forbidden to combine for greater bargaining strength.

The more democratic local crafts bitterly resented the control of the greater gilds over the town governments, which often led to importations by merchant gildsmen of goods to compete with the local product. The little oligarchies of rich burghers which dominated the towns of the Flemish Hanse were well aware of the social dynamite inherent in this situation. They made concessions to the crafts of local producers to prevent them from making common cause with the oppressed proletariat or with the restive feudal aristocracy. A further factor for possible disturbances lay in the attempts of the larger towns to dominate the smaller ones, the villages and the countryside near by. To make matters worse, gilds of similar social prestige often quarreled with each other. Over the whole was the fabric of ducal and royal intrigue for the control of the entire region.

To make a long and complicated story as short and simple as possible, this maze of conflicting groups or potential groupings was the rock on which Van Artevelde's government foundered. In 1345, at a moment when the support of the lower classes was wavering, King Edward suddenly recognized Count Louis, who was at once supported by the masses. Van Artevelde was mobbed and killed. The commercial bureaucracy declined, and the town governments fell more and more into the hands of the lesser crafts. They were not much interested in foreign trade, and as a result the Flemish Hanse disintegrated after about 1350. Count Louis had already been killed at Crécy in 1346. All the French were cleared out of Flanders after the disaster at Poitiers in 1356. Twenty-five years later, a new popular revolt under Van Artevelde's younger son failed — this one took place within a year of the English peasant revolt in 1381, which was likewise complicated by gild struggles.

The Low Countries fell into the hands of the Dukes of Burgundy, and a century later (1477) the Habsburgs acquired the territory by marriage. A long series of municipal wars came to an end in 1492, and in 1494 Philip the Handsome, son of Emperor Maximilian and Mary of Burgundy, ruled as a national prince. The era of municipal autonomy was over.

The misfortunes of Bruges were multiplied by the gradual silting up of its harbor. Its commercial leadership passed to Antwerp for about a century, whence the Spanish religious persecutions and short-sighted economic policies finally drove it to the rising cities of the Dutch Netherlands.

Thus at every turn the narrow policies of North European cities were hedged about, and their movements, both popular and capitalistic, checked and guided by the rise of national states. Germany remained in a somewhat anomalous condition at the end of the middle ages, due to the vague suzerainty of the Habsburg or Holy Roman Empire. Within it were some strong governments of princes, dukes, electors, or archbishops. The three free cities of Hamburg, Bremen, and Lübeck long continued the traditions of the Hanseatic League,

but not its prosperity, which was gradually shorn away by the national states.

One international aspect of the rise of capitalism and of an oppressed proletariat in the Belgian lands deserves mention. Large numbers of workmen fled the country, carrying their skill to England, Germany, and the Dutch Netherlands in particular. Here they worked up raw materials such as wool and metals which would otherwise have gone to the Flemish towns, and at the same time usurped their markets for finished goods. Edward III of England was especially assiduous and successful in settling groups of Flemish weavers within his kingdom. It was hard on the English weavers at the start, and they registered many complaints, but in the long run it contributed much toward the economic emancipation of the country.

MONOPOLY, WORKMANSHIP, AND PRICES

The craft gilds tried to maintain a local monopoly of the respective trades involved, to uphold the quality of the goods turned out and to regulate prices and wages. Local monopoly was possible only so long as territorial division of labor remained slight, each town producing chiefly for itself and for the surrounding country. Quality of goods was less successfully maintained than some romantic modern treatises and flamboyant advertisements of gild products would have us believe. The craftsman was obliged to work only before his window, in plain view of the public. Night work was generally forbidden. For this prohibition there were two reasons. Mediæval artificial light was poor — good work and proper inspection were difficult by candle-light. Then, too, competition between fellow gildsmen was generally deplored. The mediæval craftsman was not trying to get rich, or, as a usual thing, to break into another social class. The interest of all was best served by fixing limits to the size and output of each enterprise, and by maintaining a rough equality of condition. Night work would have given an advantage to those willing to do it.

Scamped workmanship was common, in spite of all sorts of regulations to prevent it. There are preserved to us records of pots made of inferior metals, so that they melted when put on the fire; of cloth stretched to the utmost; of poor textiles substituted for good after sale; of one leather dressed to look like another. One London baker's boy was wont to steal customers' dough through a trapdoor in the kneading-board while his master was working it up under the very eyes of the owners. English cloth from the west country was so scamped as to place in jeopardy the reputations and even the lives of those who took it abroad.

Charters of gilds (both merchant and craft) on the one hand and of fairs on the other were constantly clashing. There were endless disputes between closely related crafts. Shoemakers tried to prevent cobblers from making new shoes, and cobblers disputed the right of shoemakers to repair old ones. The Parisian tailors and old-clothes dealers quarreled for centuries as to when a suit was technically old. A French currier who had taken up tanning was forced to choose between the two crafts. The drapers, one of the most powerful and arrogant of the gild groups, engaged in endless disputes with the fullers and dyers. In Paris, the old-clothes dealers began buying up and refinishing old shoes, thus coming into collision with the shoemakers and cobblers. The cabinet-makers disputed the monopoly of the locksmiths in making various pieces with locks, and it was forbidden to install an old lock in a new cabinet. A saddler could not make a stirrup, and the harness-makers and saddlers wrangled interminably over the right to produce similar articles.

Price regulation was easy enough as long as the variety of goods remained small and strict uniformity of products could be maintained. To prevent diversity, all innovations in methods, tools or materials were forbidden. Invention of a superior tool by a craftsman would not only make conformity to the regulation technique impossible, but it might also give the innovator such an advantage over his fellows as to destroy the equality on which the fraternity rested. Even after the

accumulation of capital had destroyed the essential democracy of the earlier craft groups, innovations remained difficult. The French kings ceased to fear the gilds after the collapse of the movement for municipal independence, but an attempt was made to uniformatize them throughout the kingdom, destroying local differences which might have led to technical improvements. The multiplication of wants caused the appearance of new kinds and grades of goods, however. Some changes in method occurred inevitably, corollary to the growth in size of industrial units. A relaxation in price control took place largely because of the impossibility in practice of keeping track of so many articles of various grades, produced under different conditions and often consumed far from their places of origin.

Regulation of wages gradually passed out of the province of the craft gilds with the general closing of the gates to mastership and the appearance of a fixed class of wage laborers. Just as the earlier narrowing of the gild merchant had stimulated the growth of separate craft organizations, so now the exclusion of journeymen from these led to the formation of new associations of wage-workers exclusively. Sometimes the journeymen had been represented in the government of the crafts and sometimes not — it had made no great difference so long as they looked forward to becoming masters, or full members.

ASSOCIATIONS OF JOURNEYMEN

The usual method of placing journeymen was for them to congregate at some habitual spot like a public place or a cross-road, where they were sought out and employed by the masters who needed help. Such meetings led to a feeling of class solidarity among the laborers and to some organization. Strikes and riots occurred, and the workers were often shut out from their customary meeting-places, as at Rouen in 1285. Combinations and strikes of workmen must have been common at least as early as 1280, for the *Coutume de Beauvoisis* of that year, by the jurist Beaumanoir, expressly characterizes them as illegal and an offense.

In England, the masters constantly complained that these organizations of employees forced up wages in defiance of the fourteenth-century labor statutes which followed the Black Death. The conflict was not merely over wages and hours. One grievance of the new laboring class was the employment of workmen who were not strictly journeymen, since they had not served their apprenticeship. The excuse for this was the general scarcity of laborers following the Black Death. It became particularly acute in the towns because of elaborate laws to keep the lower classes in the country. For example, an English law of 1388 forbade the apprenticing to any craft of a person who had served in husbandry to the age of twelve. Some of the pseudo-journeymen became masters or employers without ever having been apprenticed at all. In the crafts which employed large numbers of journeymen, there was much friction between employers and employees over the hiring of foreigners.

Both economic and political repression was employed by masters. Often the craft gild had complete control of funds jointly contributed by masters and journeymen. Urged on by the new employing class in control of the craft gilds, town governments sought to prevent or break up all fraternities of "young and unstable people" who might object to the established order. Systematic repression was employed in the fifteenth century to prevent journeymen from setting up small shops of their own and taking apprentices. There was also much friction over home or outside work undertaken by journeymen who were regularly employed.

The *compagnonnage*, or loose association of journeymen, was more common and powerful on the continent than in England. It cropped up in France even after the revolution of 1789. It was closely related to freemasonry, which is supposed to have originated among the builders of mediæval cathedrals, and claimed to go back to the Templars, if not to the builders of Solomon's temple. Such organizations, of which a variety existed, often had complicated secret rituals.

Journeymen's associations suffered from the chronic weak-

ness of workmen's organizations, the want of able and consistent leadership. When all else failed, it was often possible to grease the passage of a labor leader into the class above, increasing his own economic opportunity and social prestige, but leaving his erstwhile followers to do the best they could.

SOCIAL AND RELIGIOUS ASPECTS OF GILDS

The desire of the human being to identify himself with groups seems to inhere in his gregarious nature. It is likely that the force which lends similarity to the ancient, mediæval, and modern organizations loosely grouped under the word "gild" is fundamentally social rather than economic. In the ancient crafts and burial societies, men enjoyed collectively a recognition which was denied those of their class personally. The individual workingman got his sense of social dignity and worth both by identification of himself with the splendid bigness of the whole, and by his own position in this larger entity. In the case of the burial societies, the member was assured of a certain amount of pomp and personal recognition on the occasion of his death. The whole was inextricably bound up with his formal religious beliefs, and also with his deepest feelings about his relationship to a universe bigger than any social group, even the imperial State. Religion has nearly always played an important rôle in fraternal orders. Ancient craft organizations had their voluntary and purely social aspects, even where membership was compulsory. These perennial social elements attached themselves to frith gilds and all the various protective associations of the early middle ages. They were transferred to merchant and craft groups when economic circumstances raised these to predominance. Bankers, money-changers, wholesalers, and great manufacturers used their economic position to lord it over others, but this certainly does not mean that such desire for preëminence is fundamentally economic. The same is obviously true of the very special privilege enjoyed by the Six Gilds of Paris, that of bearing the blue canopy which sheltered royal or papal personages in solemn entries into the city. It

would be carrying the theory of economic determinism to ridiculous lengths to say that it explains the mediæval professor's enjoyment of the social privilege of walking on the wall side of the pavement like the nobles.

Some of the craft gilds appear to have originated as religious fraternities; others as they grew in importance took on religious or other allied social functions. It was very common for the followers of certain crafts to form friendly societies or brotherhoods (*confreries*) which had about the same membership as the gilds themselves. These *confreries* often had elaborate religious rites in honor of the patron saint of the craft — for example, Saint Joseph as patron of the carpenters, Saint Peter of the bakers, and Saint Fiacre of the gardeners. They organized processions, assembled together for high mass, buried their dead with suitable rites and maintained funds for the aid of their sick or unfortunate members. Such groups often became powerful, and were viewed with suspicion by churchmen, who repeatedly denounced them for heresy. Attempts to suppress them led to the transformation of many into secret societies. This is particularly true of journeymen's orders, which did not enjoy public recognition.

One of the important social contributions of the craft gilds and their associated societies was the mystery (mistery) or craft play. Biblical incidents were portrayed in cycles of pageants tending to develop the drama, secularize religion and give social solidarity to the lower and middle classes.

POPULATION OF THE TOWNS

There were no accurate population statistics in the middle ages, but shrewd estimates have been made from such data as tax rolls, gild lists, etc. Paris, with some 300,000 souls during the fifteenth century, was the largest city of northern Europe, but Flanders was by far the most highly urbanized region. London had a population of about 40,000. It is doubtful if any other English town had as many as 15,000. Perhaps a dozen English towns had over 5000 or 6000. The population of the larger French towns besides Paris ranged

from 5000 to perhaps 25,000. In Germany, Nuremberg and Cologne had over 20,000, but famous cities like Frankfurt and Basel had well under 10,000. Bruges, Ghent, and Ypres have been estimated at 100,000, or even twice that figure, but Pirenne doubts if any of them ever had over 50,000 in fact. Most of the cities, even the famous ones, had somewhere between 5000 and 20,000. Flanders was so urbanized that it was called at the time "a continuous city"; but twenty-five per cent of town-dwellers would probably be a generous estimate. Except for the Belgian lands, the bulk of the population of northern Europe lived in villages of 300 or less. In whole English counties, two thirds of the people lived in villages of less than 120 inhabitants. The great historical importance of city life was due to the changes it was destined to produce, rather than to the percentage of the population which lived under urban conditions at the time.

Many towns developed from agricultural villages, well situated for trade. A large proportion of the full citizens or burghers of many North European towns is known to have been of peasant origin. Professor Bücher gives figures for Cologne and Frankfurt, showing the percentages of newly received burghers drawn, respectively, from other cities and from villages or hamlets:

	Period	From Cities	From Villages and Hamlets
Cologne.....	1356–1479	37.4 per cent	62.6 per cent
Frankfurt.....	1311–1400	28.2	71.8
Frankfurt.....	1401–1500	43.9	56.1

A comparison of the two periods covered by the figures for Frankfurt reveals a decided fall in the percentage coming from the country at the close of mediæval times. The author cites additional evidence to show that this was quite generally the case.[1]

MONEY

When the crusades stimulated the North European demand for southern and oriental goods, one of the greatest

[1] *Industrial Evolution*, pp. 375 f.

drawbacks to commerce was the disordered state of the currencies. Charlemagne had reëstablished a government monopoly of coinage, but the rise of feudalism undid all his labor. The smallest feudal units struck off pieces of any materials, weight and value which suited their fancy. Even in eleventh-century Germany, where Otto the Great had reconstructed a measure of central authority and feudalism was not yet well established, a number of lords had coinage privileges. The goods which the ruder north had to offer in exchange for coveted southern luxuries were mostly heavy for their value and costly to transport. There was thus a strong tendency for northern Europeans to owe the Mediterranean cities a balance. The Mediterranean region was wealthier. Its economic institutions being older and riper, it was the creditor of northern Europe to a very great extent — a common relationship between old commercial regions and newer agricultural ones.

The streams of the Alps, Cévennes, and Pyrenees, including the Rhine and the Rhone, were panned for gold with some success. Silver ore and silver-bearing copper ores were smelted here and there, especially in the German mountains. Exports of tin, lead, and iron to southern Europe did something to keep down the balance of trade. Not all the northern mining and manufacturing, however, could entirely undermine the commercial and financial supremacy of the Mediterranean region as long as the trade routes through the Near East retained their importance. This situation may be easier to visualize by comparing the Mediterranean commerce of that time with the North Atlantic trade of ours. Such places as London, Amsterdam, and New York maintain their financial supremacy because of similar advantages to those enjoyed by Venice or Genoa late in the middle ages.

Europe's increased general stock of money metals toward the close of the period was favorable, on the whole, to debtors rather than to creditors, and hence to debtor rather than creditor regions. On the other hand, northern economic

progress enriched many southern investors, and ecclesiastical taxes sent or credited to Italy helped to aggravate the financial dependence of the North. It is probably a mistake to suppose that there was a shortage of money in northern Europe, or at least that this was a primary factor in the difficulty. Due to the development of commercial institutions in Italy to a point where credit instruments such as the bill of exchange could be widely used, the towns got along with whatever amount of gold and silver they happened to have. After all, the mere quantity of specie was of minor importance as long as it remained fairly stable.

Mediæval Europe — both north and south — had to pay a certain price for the smallness or looseness of its various political units. With such a diversity of coinages, it was difficult to prevent money-changers from exporting or melting the heavier and purer pieces, which would tend to debase the currency without profit to the governments. Both melting and export were usually forbidden by law. The main purpose of such legislation was to protect the coinage profits (seigniorage) of the mints and to give them a monopoly of debasement when this was resorted to.

Italian coinage practices were far more orderly and business-like than those of the North. Southern commercial penetration was undoubtedly a factor in the very gradual adoption of the view that money is merely a highly useful commodity. In time, it came to be realized that a commodity which is also the common denominator of all others in exchange must be standardized to an exceptional degree in order to serve that purpose. Though they did not have this specific purpose in mind, northern rulers took measures which led eventually to greater standardization — that is, the visible small abuses which they attacked were mere parts of a more general evil, seen very dimly if at all. In the thirteenth century, Saint Louis of France forbade the circulation of any but royal coins in his own domain (a mere fraction of present day "France"). He also succeeded in getting the royal coinage accepted among his great vassals such as the

Counts of Champagne and the Dukes of Toulouse and Burgundy; but he was unable to suppress the feudal currency of such vassals in their own domains. This had already been accomplished in England, but she was more united, and the kings had the nobles better in hand.

The primary object of Saint Louis's monetary measures may be seen in the fact that seigniorage (the profits from coinage) continued to be one of the important sources of French crown revenues until well beyond mediæval times. All the northern European governments actually debased their coins at one time or another. It was considered a legitimate method of raising taxes, "prompter, easier, and less burdensome to the people than any other." There were three general types of debasement. The first merely altered the legal ratio between specie and money of account, and was thus practically the same in effect as modern inflation of paper issues. The second and third were often practiced together: a reduction in the weight or fineness, respectively, of the coins issued.

Mediæval thought was correct in considering debasement a form of taxation. In this respect, the practice is equivalent to modern inflation, which expands the amount of paper money in circulation without increasing the specie reserve accordingly. This form of taxation was denounced by mediæval writers like Oresme and Pierre du Bois as economically disastrous, ruining foreign trade and impoverishing whole classes of citizens by arbitrary changes in price levels. Business people were so much against it that thirteenth-century towns offered to pay heavy taxes in order to restore sound currency.

Only a fraction of the proceeds of either debasement or inflation goes to the Government, since purchasing power declines in rough proportion to the increase in the number of pieces based on the same amount of precious metal. In laying a burden upon all money, the Government taxes its own as well as that of its citizens. Moreover, all the other state revenues begin to yield less intrinsic value because of pay-

ment in depreciated currency. Philip the Fair debased the French coins early in the fourteenth century, but reversed the policy when they began to come back — for a time actually increasing the standard of the coinage. This worked so well that later kings improved upon it by suddenly changing the monetary rate several times a year. As to the ultimate effects, we need hardly be surprised that the Champagne fairs declined under French rule, or that the kingdom seemed literally falling to pieces in the earlier part of the Hundred Years' War with England. Even in the rare cases where depreciated issues have been redeemed at par, the beneficiaries were of course the holders at the time, not necessarily the same people as those who originally paid the tax involved.

However great the hardships imposed upon an important economic class, this is not the only vice, or perhaps the most serious one, of this method of raising revenue. Wealth is arbitrarily redistributed in a way which affects almost every one. All fixed incomes, including salaries, are reduced in purchasing power. Debtors get off easily, at the expense of creditors. Workers are usually injured, as wages rise more slowly than prices. The consequences of debasement and inflation are far more intricate than a hurried explanation can possibly convey. To mention a familiar modern illustration, the American Government of the Civil War period bought supplies with dollars capable of purchasing only thirty-five cents' worth. Price levels were so artificial and shifting that some people easily made fortunes, while many failures occurred in enterprises which depended upon stability of prices, or had incomes definitely fixed in terms of the sinking dollars. Eventually, the depreciated dollars were "redeemed" at a hundred cents each; but they were reissued, so that the process really cost the Government nothing. Evidently somebody paid for the goods purchased with these issues, and also for the redemption of the issues themselves, but the effects, planned and unplanned, were so complicated that no one knows just who, or in what proportion. Furthermore, it is quite impossible to compute the direct and indirect

cost of such a tax to the community. The hostility of the business public to mediæval debasement and modern inflation has rested largely on the baffling way such policies have of taking wealth from some individuals or economic groups and bestowing it upon others.

Southern economic leadership in the middle ages had been founded chiefly on three things: more abundant vestiges of ancient economic achievements, an earlier start, and intimate contacts with the East. The first and last of these could not be exploited without transmitting most of their effects upon organization to northern Europe. Dependence upon the Italian cities for eastern goods was reduced by the imitation of many products in the North. Silk culture, for one thing, was transplanted to France, where it flourished as far north as Tours by the end of the middle ages. So it was with many manufactured wares. In the case of goods for the production of which northern Europe was climatically unsuited, the Mediterranean monopoly could be broken only by the discovery of new trade routes. Italy's relative financial superiority was due to the general character of her economic life rather than access to mines of precious metals. Northern Europe, predominantly agricultural, had fewer light, valuable articles to export; but on the other hand, it was enormously richer in natural resources. This finally began to tell. At the very end of the middle ages, the Fuggers of Augsburg were probably the richest banking and investment firm in Europe. A century before, the founder of this great German family had been a country weaver. The firm's capital, in terms of modern purchasing power, would amount to about twenty-five millions of dollars. It is not likely that any Italian firm could muster one third that amount.

The Hanseatic League was still practically at the peak of its strength in 1500. The great canal which carried its ships between Lübeck and the Elbe was the first for seagoing vessels in western Europe. Smaller canals were appearing here and there. The lock was a mediæval Italian invention. Great navigation companies improved the natural water-

ways, and an enormous river commerce developed. The Loire alone carried merchandise to the value of about nine millions of francs annually during the fourteenth century. Roads were multiplying. France alone had fifteen thousand miles in the fifteenth century. In a word, northern European localism had broken down, and a financial organization had appeared which permitted of pouring large amounts of capital into common enterprises. By the fifteenth century, money economy covered not far from a third of the European transactions, and the total amount of coin in the Occident in 1500 has been estimated at some two hundred millions of dollars. Just before the discovery of America, the great sources of silver were Bohemia, Saxony, Alsace, and the Tyrol. The richest gold deposits then worked were in Transylvania, the Carpathians, Carinthia, and Bohemia. Central and northern Europe had more than their share of the sources of money metal.

Antwerp, unhampered by the mediæval traditions of Bruges, was able to make the most of the capitalistic age just dawning. Her captains of industry frankly abandoned the earlier gild ideas and took orders for thousands of bolts of cloth at a time. There were more central shops than before, and the wage system was the rule, not the exception. Both in England and in parts of the low Countries where the earlier gild restrictions were firmly maintained, industry was already fleeting the towns to establish itself unfettered in the country. The beginnings of the Antwerp stock exchange awaited only the impending age of exploration and adventure to completely overturn mediæval commercial practices. Bills of exchange, letters of credit, checks, sales of graded commodities by sample and for future delivery, were all known.

INVENTION AND SCIENCE

The greatest mediæval improvements in technique came at the three points where we should expect them in a social network of gilds which frowned upon change. Cloth manufacture and the metal trades for export were in a capitalistic

corner by themselves, and milling was largely done by manorial concessionaires where there was no occasion for a craft gild. The water wheel was first applied to milling, shredding, and otherwise preparing food products. Carried over into the cloth industry, it was used for fulling. Attached to pumps, it was employed to keep water out of mines. Hitched to windlasses and other ingenious machinery, it hoisted, sorted, cleaned, and crushed ores. Some machinery for shaping and grinding tools was driven by water wheels, which likewise furnished power for certain tanning operations and for the manufacture of paper. Windmills attained considerable mechanical perfection. They were generally used where power was essential and running water unavailable.

The manufacture of Egyptian paper (papyrus) had practically ceased, and parchment was scarce in the nature of the case, being made from skins by a tedious process. Chinese paper, which has now become universal, reached Arabia about 625 A.D., and was introduced into Spain with the Arab conquest a century later. Pulp was generally made from mulberry trees in China, but the Arabs and Moors used cotton, flax, and rags also. Paper production had spread to Italy and France by 1200, and was carried on in all the western European countries a century before the close of the middle ages. It was the introduction of this cheap, plentiful material which made the printing press practicable, and it was not long in appearing.

Paper was an enormous help to both commercial and intellectual life. Europe had remained largely partitioned off into communities, unable to arrive at a common fund of social, scientific, and political ideas for want of writing materials. Throughout the middle ages, individuals here and there had been scientifically minded and remarkably well informed; but their ideas and point of view had had little chance to spread. Pope Sylvester II of the tenth century had studied as a young man at the great Moorish university of Cordoba, where Arabian natural sciences were accepted as a matter of course. Arabian chemical knowledge at this time

is rather surprising, considering the silly magical formulas current in most of western Europe. Geber (or Jeber — about 800 A.D.) had introduced the strong mineral acids, could dissolve almost anything, understood distillation, sublimation and the preparation of oxides. In short, he was an accomplished practical inorganic chemist, though his theories were crude and often incorrect. Sylvester made little headway against the rude superstitions of his time, for all his own sophistication. Few people except the monks and priests could read, and these could not be trained to think. There was not enough writing material to keep alive any great amount of intellectual activity.

Leonardo of Pisa called the attention of Christian Europe to the Hindu-Arabic mathematics, including the use of the zero, in 1202. The chief practical effect was a great improvement in accounting methods. During the same century, the scientific writings of the Arab Alhazen (d. 1052) became generally known. Alhazen had some knowledge of refraction, magnifying, and the chromatic effects of prisms. Somebody — probably Salvino d'Armato — applied magnification to spectacles. This invention is sometimes attributed to Roger Bacon, a Franciscan monk who had a penchant for wide reading, experimentation, and criticism which attracted suspicious attention. Asked by Pope Clement IV to write out his works, Bacon produced (about 1267) a wise and temperate argument for observation, comparison, criticism, and experimentation to supplement the use of authoritative texts. Many of these latter had been corrupted through repeated translation or transcription, since no two pen-written manuscripts are exactly alike, and many of the copyists were far more ignorant than modern stenographers of the meaning of what they reproduced.

In a remarkable letter on the "hidden workings of nature," Bacon predicted the invention of power-driven ships and vehicles, flying machines, hoisting apparatus, suspension bridges, and many other devices which could not be constructed until science and industrial technique had gone

much further. It is thought by some that he invented the microscope. Scientists of his time, such as the Pole Vitello and Peter of Abano, suspected the existence of chemical "elements," but despaired of arriving at their quantities in actual substances. Even the mediæval alchemists knew a good deal about the practical working of metals, but their ideas seem to us muddy and difficult to grasp because, following Aristotle, they thought of substances as actually composed of their properties (such as heat, cold, wetness, and dryness). It was not until the seventeenth century, when much finer instruments were available, that a group of scientists got down to the practical idea that an element is simply a substance which cannot be further broken up into different parts. While men like Vitello had vague notions of this, they did not yet have enough actual data to warrant them in discarding the older philosophical ideas about the nature of matter. There must have been many scientists of this period — both Arabs and Europeans — whose names are lost to us. Roger Bacon is now positively known to have been less unique in his time than was supposed a generation ago. As we find out more about late mediæval thought and activities, the older assumptions about the crudity, impracticality, and "other-worldliness" of the period disappear, and we see people very much like ourselves.

About this time gunpowder, which had been known for centuries in China, was first used in firearms in Europe. It was destined to overturn the mediæval military system. A crude form of the compass had likewise been employed by the Chinese for something like a thousand years before it was generally adopted by Europeans as an instrument of navigation about 1300. Like paper, it had been carried to Arabia, and was mentioned by one of the poets of Mohammedan Spain as early as 853. The balancing of the needle on a ball-point was an Arabian or European improvement — the Chinese instrument having worked with a float in water or oil. It is rather startling to observe that the three inventions — paper, the compass, and gunpowder — which lie most im-

mediately and obviously back of Europe's modern age all rest upon Chinese inventions.

The invention of the clock escapement by Villard de Honnecourt in the thirteenth century paved the way for the first accurate time-measuring apparatus. Thus the same mediæval century furnished the two outstanding differences between ancient and modern science: Roger Bacon's name has become the symbol for the emphasis upon applying to practical ends the knowledge gleaned from experiments; and the exact measurement of time added a new symbol — science soon became interested in movement, velocity, and the causal sequence of phenomena which is sometimes called evolution. What the Greeks had lacked in their science was suitable instruments, the appearance of which had been hampered by their contempt for craftsmen and for the mechanic arts. The Romans had been somewhat more practical in applying such scientific knowledge as they had, but their indifference to exact science had left applied science and invention nothing to feed upon.

Craftsmanship in mediæval Europe arrived at an independence and respectability which it had never previously known. The result was an astounding mechanical cunning and inventiveness which found a very restricted outlet in the old and stereotyped crafts, but shone at its best in the newer ones. No one who will visit the arms museums in the Tower of London or at Dresden can fail to be impressed with the ingenuity of the repeating muskets constructed almost as soon as gunpowder came into use in Europe. They were not practical, to be sure, but this was because of the lack of suitable materials such as case-hardened steel, cheap sheet brass for cartridges, and reliable explosives for detonating caps, not because the brains which designed them were inferior in resourcefulness to any to-day. The break-up of gild restrictions was a blow at democracy and lower-class welfare for the time being, but it left an enormous fund of mechanical skill for the new age of rising individualism to exploit. Mediæval towns, as Nys has so well put it, "did even what antiquity had not done — they ennobled labor."

The technique of spinning and weaving had undergone little change since the remotest antiquity, but a much more pliable and efficient system of organization had been found — one which used free workmen and favored the development of skill. The chemistry of dyes was much better known than in ancient times. In some processes, such as fulling, mechanical power had been introduced. The greatest improvements were in the metal trades. Bronze casting remained little changed, but much larger pieces of iron could be cast, thanks to improved blowing apparatus and better constructed furnaces which melted the metal more thoroughly. Fine steel and iron work was much more rapidly and efficiently turned out than in Roman times. The Germans had developed a new science of edged-tool-making, improved the nail-making process and learned to make iron wire. Final shaping and laminating of iron and steel were much aided by the new hydraulic hammers. Glass windows were a mediæval European innovation which unlocked new architectural possibilities. Such windows were not yet much used in private houses, except those of the rich, but the colored-glass windows of mediæval cathedrals have never been equaled.

Geographical knowledge was vastly expanded during the last two centuries of the mediæval period. Northern Europe had its share of the explorers and travelers. Louis IX of France sent the Franciscan William of Rubruquis to Tartary in 1253. This monk's carefully written descriptions greatly influenced Roger Bacon. Jordanus, a French Dominican, was sent to India, and likewise wrote a record of his journey. The *Travels of Sir John de Mandeville* appeared in French in 1357. This was a mixture of popular travelogue and guidebook, based upon earlier works, including that of Marco Polo. Another of the widely circulated travel books was that of Ibn Batuta of Tangier (1304–78), who covered some seventy-five thousand miles in Africa and Asia and described the lands he visited with accuracy and graphic power.

The intellectual ferment which followed the invention of printing by movable type, about 1450, defies description.

The same man was often master of a dozen arts and sciences, flitting from one to another with amazing proficiency. Leonardo da Vinci (1452–1519), for example, was not only a great painter, sculptor, architect, and musician, but he earnestly pursued such sciences as botany, anatomy, and physics, and tinkered at innumerable mechanical inventions. As an engineer, he drew up plans for tunnels, fortifications, and water-works. He planned the making of shrapnel, flying machines, steamboats, and breech-loading cannon. His hurried notes discuss fossils in quite a modern vein, and leave no doubt that he regarded the world as in motion, not the center of the universe. He came within an ace of discovering the chemical composition of water. Most of his scientific and practical work remained, like his art, unfinished, but he devised a practical marble-saw and a rope-making machine. That he escaped persecution for his advanced ideas he probably owed to the fact that his notebooks, which were written backwards and had to be deciphered by the aid of a mirror, remained unpublished until long after his death.

Printing broke down the localism of Europe and swept aside the intellectual barriers between North and South. The Mainz psalter, the oldest European dated book we have which was printed from movable type, appeared in 1457. Several of Gutenberg's pamphlets, and probably at least one book, were published earlier. By about 1500, there were in Germany alone a thousand printing plants large enough to be recorded, and other peoples were not slow in taking up the new "German art," as it was called. (Perhaps "Chinese art" would be more accurate.) Knowledge and ideas became international immediately, but the new publicity only served to intensify the consciousness of national differences. Germans saw themselves exploited by Emperors and Italians. In the struggle against both at once which was about to open, the printed pamphlet was to demonstrate its vast and unsuspected power. Real public opinion was born with the printing press.

In the meantime, after more than half a century of pre-

paration, Vasco da Gama had at last reached the Indies by sailing around Africa, and Columbus thought he had attained the same goal by striking out westward across the Atlantic. No intelligent person could longer argue the flatness of the earth. Ideas of strange lands and new economic opportunities were spreading like a prairie fire across Europe as the century closed, and an age with it. The profits on Vasco da Gama's initial voyage to India had been about six thousand per cent. Social and political allegiances were shifting — as yet almost imperceptibly, but none the less surely. The objects of those unsettled allegiances, the institutions themselves, were no longer what they had been, and it was not yet clear what they should become. A body of skill, invention, and collective social force was emerging from the mediæval shell which had developed but held it.

SUGGESTIONS FOR FURTHER READING

Adams, G. B. *Civilization during the Middle Ages*, ch. XII.

*Ashley, W. J. *An Introduction to English Economic History and Theory*, vol. I, chs. II, III.

Ashley, W. J. *Economic Organization of England*, Lecture II.

Bax, E. B. *German Society at the Close of the Middle Ages*, chs. V–VII.

Bland, Brown and Tawney. *English Economic History, Select Documents*, part I, secs. V, VI.

*Boissonnade, P. *Le travail dans l'Europe chrétienne au moyen âge*, livre II, chs. IV–VII; livre III, chs. I–III.

Briggs, M. *Economic History of England*, chs. II, III. (London, 1914.)

Bücher, Carl. *Industrial Evolution*, ch. X.

Cheyney, E. P. *European Background of American History*, chs. I–III.

Cheyney, E. P. *Industrial and Social History of England*, chs. III, IV, V.

Cunningham, W. *Growth of English Industry and Commerce*, vol. I, pp. 434–56; 506–25.

Cunningham, W. *Western Civilization in its Economic Aspects*, vol. II, Introduction, and book IV.

*Day, Clive. *History of Commerce*, part II.

Evans, A. P. "The Problem of Control in Medieval Industry," in *Political Science Quarterly*, 1921.

*Gay, E. F. "Hanseatic League" — art. in *Encyclopædia Britannica*.

*Giry et Reville. In *Histoire générale*, vol. II, ch. VIII ("Émancipation des villes"); ch. IX ("Le Commerce et l'industrie au moyen âge"). To be had in English translation (Holt).

*Gras, N. S. B. *An Introduction to Economic History*, ch. IV.

Green, Mrs. J. R. *Town Life in the Fifteenth Century*, vols. I, II.

Gross, C. *The Gild Merchant*, vol. I.
Haskins, C. H. *Studies in the History of Medieval Science.*
Janssen, J. *History of the German People*, vol. II.
Kötzschke, R. *Grundzüge der deutschen Wirtschaftsgeschichte bis zum 17. Jahrhundert.*
Kötzschke, R. *Allgemeine Wirtschaftsgeschichte des Mittelalters.* (A 1924 work which deserves translation.)
*Lipson, E. *An Introduction to the Economic History of England*, vol. I, "The Middle Ages," chs. V–VIII.
Macdonald, G. *Evolution of Coinage*, chs. I, II.
Monroe, A. E. *Monetary Theory before Adam Smith*, part II.
*Nys, Ernest. *Researches in the History of Economics*, chs. III–XII.
Ogg, F. A. *Economic Development of Modern Europe*, ch. III (Bibliography).
*Pirenne, Henri. *Belgian Democracy, Its Early History*, chs. IV, VI, VIII, IX.
*Pirenne, Henri. *Medieval Cities*, chs. V, VI, VII. (1924, Princeton Press.)
*Renard, Georges. *Guilds in the Middle Ages.*
Renard and Weulersse. *Le travail dans l'Europe moderne*, Introduction.
Salzmann, L. F. *English Industries of the Middle Ages.* (1923 edition.)
*Schevill, F. *Siena*, pp. 96–100; 107–10.
Schulte, A. *Geschichte des Mittelalterlichen Handels und Verkehrs zwischen Westdeutschland und Italien*, vol. II.
*Shaw, W. A. *The History of Currency*, ch. I, pp. 25–60. Also sketch histories by countries in Appendices IV–VI.
Thorndike, L. *History of Mediæval Europe*, ch. XVII.
Unwin, G. *The Gilds and Companies of London*, ch. I.
*Usher, A. P. *Industrial History of England*, chs. III, VI.
Zimmern, Helen. *The Hansa Towns.*
Weber, Max. *Wirtschaftsgeschichte*, chs. II, III.

Note: For a deeper study of this intricate subject, consult the titles given in Paetow's *Guide to the Study of Medieval History*, pp. 250 ff. Pirenne's short bibliography at the close of his *Medieval Cities* is particularly well selected. Some sources have been omitted in the above list because it seemed safer to turn to them from that excellent book, if time affords. At the close of ch. III in the Ogg reference (above) will be found a fuller list. Professor Ashley's *Introduction* has very full notes on sources at the end of the chapters. Max Weber's *Wirtschaftsgeschichte* gives notes on the European literature at the head of each chapter. It is especially good for the continental material. This is a thought-provoking book, and is highly recommended to those who read German. Palgrave's *Dictionary of Political Economy* has articles by authorities on the most important subjects.

PART II
IN MODERN TIMES

PART II

IN MODERN TIMES

CHAPTER I

THE BEGINNINGS OF EUROPEAN EXPANSION

ORIGINS OF MODERN SOCIETY

In tracing European expansion the present tendency is to lay much less stress than formerly upon such dramatic events as the fall of Constantinople in 1453 and the great cultural and religious movements popularly termed the Renaissance and the Reformation. Constantinople suffered a long decline before the Ottoman Turks finally captured it. Its eclipse was due to slow but very great changes in European economic organization which curtailed its monopoly of markets, and to certain military movements in Asia affecting its sources of supplies. The Renaissance, or intellectual awakening of the fourteenth and succeeding centuries, is now generally regarded as a mere acceleration of a movement already well under way, and having its roots far back in the Middle Ages. Its economic, social, and intellectual atmosphere was derived at least as much from the contemporary European situation as from the classical revival which has given the period its name. There is no divorcing it, as a factor in modern history, from the material facts which underlay and surrounded it. Chief among these are the economic life of the Italian cities, the invention of printing, and the great expansion of European economic contacts which began with the crusades, merged into the overseas explorations and colonizing projects, and is still going on as the exploitation of backward regions of the earth.

Neither the Renaissance nor the Protestant Revolt was in

any true sense a "cause" of the great changes in European life which followed — both were dramatic but incidental factors in a general situation. Historians of the Reformation are interesting themselves more and more in such economic matters as the effect of the rapid development of trade and industry upon peasant life, politics, and the point of view of Europeans generally. It is impossible to consider the revolt from the Church separately from the flood of printed books and pamphlets which would not have been possible without the inventions of the preceding century, or to peruse the pamphlets themselves without perceiving the driving force of the economic issues they raised. The bourgeoisie or enterprising middle class of the towns, and the national state, had attained a potential force which was bound to assert itself before very long. Whenever this should take place, the overturn of the medieval system was inevitable, through the play of forces which it had itself produced. From the crusades to the present, the most impressive and constant factor in the changes which have appeared is the expansion of trade. During the Middle Ages, this exerted itself chiefly on inland seas, rivers, and caravan routes. In early modern times, before the age of railways, the oversea phase was the most striking. This cumulative growth of commerce meant much more than a mere quantitative change. It altered rapidly in character also, breaking out of the bounds of the older organization. Eventually, it built for itself the very different structure of business which we know as modern capitalism.

THE BEGINNINGS OF MODERN CAPITALISM

Capital, defined as a producing surplus created by man, has existed almost from the beginning of human time. It has even been accumulated in fluid negotiable form ever since the development of coined money.

Capitalism means a good deal more than the mere amassing of capital. For instance, the socialist, who wishes to destroy the capitalistic organization, would usually admit

the need of fully as much capital in producing under the system he advocates. It goes without saying that a producing surplus, or capital, must first exist; but the real earmarks of capitalism are the form in which this capital is accumulated and the method of applying it.

While there was a good deal of commercial and financial enterprise for private profit in the ancient world, it was greatly restricted, as compared with the situation in modern times. This capitalism — for such it was — hardly touched industry. The prevalence of slavery and of a domestic or household system of production partially accounts for this. Moreover, the ancient imperial governments frowned upon purely private business on a large scale as a possible enemy of that type of state. Fluid or negotiable capital was amassed largely in connection with public or semi-public enterprises. In Rome there was hardly a shadow of the organization of banking and credit as we know it. The considerable bulk of commercial and financial operations should not betray us into forgetting its relative insignificance in the vast areas and populations concerned.

When the Roman Empire in the West broke up, such forms of enterprise as might be called capitalistic disappeared for a time, and landed property stood almost alone. Capital began again to accumulate, first in southern Europe, along the trade routes from the East. In the medieval world, as in the ancient, it was chiefly applied to large-scale commerce and finance, not to industry. Such industries as grew up along the trade routes to provide exports were definitely dominated by the organizations for commerce.

For example, the Florentine *arti di Calimala* dealt in cloths from the north of Europe, and also refinished them. The gild masters were real wholesalers, moving goods in quantity to and from both northern Europe and the Near East. Instead of shifting precious metal to make their payments, they developed an elaborate banking technique, using bills of exchange.

There were also specialized bankers and money-changers

in medieval Italy. As in ancient times, these professional financiers paid particular attention to public business. They founded branches in northern Europe, got concessions to collect Papal revenues, and built up their general business around this steady flow. Sometimes they made loans to monarchs, recouping themselves by the exploitation of monopolies and concessions. Florentine bankers did this in the Kingdom of Naples, and the great Bank of St. George at Genoa had a similar origin.

The Church's prejudice against private profit and interest was largely inherited from ancient times. In the end, medieval Europe was more than twice as large as the Roman part had been. The importance of the trade routes from the Levant and the looseness of medieval governments made the regulation of large-scale commerce and the accompanying financial operations particularly difficult. During most of the medieval period there was friction between the Papal Government and both the commercial towns and the weakly organized Holy Roman Empire. The very chaos of small states and feudal currencies made the money-changer indispensable and complicated the problem of controlling his activities. Small industry, for local markets, was in a straitjacket, but export industries shared some of the power and immunities of the great commercial gilds for which they worked.

With the rise of national states, the financial capitalism which had grown up in northern Italy began to look less like that of the ancient world, and to take on an aspect more familiar to us. Monarchs like Philip the Fair of France took advantage of both the financial strength and the wide experience of such bankers as his Italian advisers, Biccio and Musciatto. This was nearly two hundred years before the times conventionally spoken of as "modern."

The great trading towns, some of which manufactured on a considerable scale before 1500, would have been even more radical than the national states in freeing business from the Church's restrictions, had they possessed the power. As

soon as the states had securely established their authority over the towns, the medieval system, already toppling, found this additional disruptive force released against it.

Calvinism, which began in that urban environment, has been particularly blamed (and praised) for the assertion of a new ethical code which has been defined as turning the medieval sin of covetousness into the modern economic principle of "snatching to hoard and hoarding to snatch." This is not fair to the early Calvinists. As members of mercantile communities, they found themselves obliged to depart in many ways from the strict principles laid down for a simpler society which no longer existed around them. They strove heroically to preserve the good — one might say the Christianity — of the old system, by a rigid discipline of rich and poor. The economic forces they liberated proved less amenable to control than they seemed at the time, but these factors really dated far back of Calvinism.

Luther's revolt against the Church aided only incidentally in the triumph of the new spirit of private enterprise. Himself of peasant origin, the founder of the new sect reasoned from the village, not the commercial town, as the basis of society. A new economic order was appearing, regardless of all the Calvins and Luthers. Calvin, the hard-headed town lawyer, recognized the change as an accomplished fact, which he tried to reconcile with what seemed to him fundamental in medieval Christianity. Luther, the peasant and mystic, saw rather the terrible abuses incident to the great change which was taking place, and fought the economic innovations which threatened the class and country he knew.

Men who deal with such vast forces, converging in certain periods to produce transformations which nobody can foretell always do a good deal which they do not intend. For example, the use of paper, a cheap and plentiful writing material, had been spreading over western Europe for some two hundred years. We have been taught to think of it chiefly in connection with the printing press, which it made practicable. To some extent, this habit has blinded people to the impor-

tance of the introduction of paper in commercial and financial transactions. Nobody suspected, or could have suspected, the force of propaganda and counter-propaganda unlocked by the appearance of printing. This is one of the reasons why Luther, looking backward at village collectivism, incidentally gave a great impetus to the growth of nationalism and economic individualism. Calvin, as sincerely opposed as Luther to the medieval sin of covetousness, got his name attached to a type of economic ethics of which a medieval thinker would have regarded covetousness as the main characteristic. Neither man had more than a glimmering notion of the means human nature would eventually discover for making this new society as humane and tolerable as we find it. If either could have looked down four centuries to conditions just before the beginning of factory legislation in the nineteenth, he might have regarded his forebodings as justified.

Only the crudest beginnings of the stock company had been made at the opening of modern times. Some of the financial houses, such as the Fuggers, were quite rich, but they were largely family concerns. There was capital enough to start the great enterprises of oversea trade and exploration. These ventures were badly organized and financially unsafe at the outset. It was during the course of the great movement which has been called the expansion of Europe that the distinctively modern type of capitalism appeared.

An outstanding characteristic of the new capitalism was to be the use of readily negotiable shares of stock which represented the capital in great enterprises. This was made necessary by their size, and also by the permanency of the investment. Once the trade with distant regions like the East and West Indies became established, and its flow fairly regular, the capital required for gathering and distributing merchandise was quite large, and difficult or impossible to assign to particular voyages. With a joint-stock organization, more people could participate. A freer negotiability of the shares tended to place the continuity of organization above the lives and fortunes of particular individuals or families.

Controversies have raged for many years around the origins of modern capitalism. We can minimize these by following the thread of the evolution of business organization rather than the more obscure, and for us less important, one of the accumulation of the capital itself. Since it undoubtedly came from various sources, no single explanation would suffice in any case. International commerce, interest and usury, mining, and the revenues from landed estates all played their rôles. For our purpose, the main fact is that capital existed at the opening of the sixteenth century, in such forms and quantities that the "adventurers" — largely self-made men — could get their hands on it and apply it to the new opportunities.[1] There have been so many "commercial revolutions," and they have differed so much one from another, that the expression itself is objectionable; but the fact remains that the growth of commercial capitalism which accompanied the expansion of Europe during the first two modern centuries changed the medieval economic order beyond all recognition.

MOTIVES OF OVERSEAS EXPANSION

Some four general reasons have been assigned for the appearance of the great age of discovery and colonization which characterized European society from the middle of the fifteenth century to the close of the eighteenth. In the first place, there was the strong economic impulse to get more and better contacts with the sources of Eastern commodities. The growth of commerce had a cumulative influence in stimulating demand, and thus increasing the desire for a better source of supply. Besides the general motive of commercial gain, there was a special incentive on the part of western European cities to break down the Italian monopoly over the direct trade with the Near East. In the political field, there were also strong incentives for overseas expansion. The greater states of Europe felt that their prestige at home would

[1] See the "Note on the Rise of Modern Capitalism" at the close of the next chapter (p. 337–341).

be enormously advanced by adding distant lands to their European domains. There was also the ever-present religious motive — a desire to convert the aborigines or pagans who sat in darkness. Finally, we must not underestimate the set of psychological influences revolving about the element of curiosity and the spirit of adventure, which was able to overpower the natural reluctance to risk one's life in the real hazards of navigation, as well as the more horrible imaginary dangers of voyages to uncharted regions.

By the time these influences had become operative, certain improvements in nautical science had made possible fairly successful navigation out of sight of land. Most important of all these developments was the mariner's compass. Supplemented by crude instruments for reckoning position at sea by observation of sun, moon, and stars, the compass made it possible for the mariner of 1500 to locate himself at sea even after a number of days' voyage from the coast. The absolutely indispensable instruments for deep-sea navigation had appeared.

The common statement that overseas expansion was rendered necessary by the capture of the Eastern trade routes by the Turks has been disproved by Professor Lybyer. Statistics of European trade and prices in the fifteenth and sixteenth centuries prove that the Turks did not in any important way interfere with the old trade routes. In fact, they made heroic efforts to arrest a decline which had already set in. They did not occupy the southern route through Egypt and the Red Sea until 1520, a generation after Columbus had discovered America and Vasco da Gama had reached India via the Cape of Good Hope. Furthermore, the earliest attempts to establish overseas contacts with the East began even before the capture of Constantinople in 1453.

As usual, the real explanation is undoubtedly a composite one. Improvements in navigation and geographical knowledge gave the spirit of adventure, long-standing missionary yearnings, and the desire for new opportunities for profitable trade a chance to express themselves. While the Turkish

expansion may not have seriously cut down the volume of trade between Asia and Europe, it must be remembered that the European demand was increasing, that caravan transportation meant high prices, and, finally, that the Italian monopoly was held largely responsible for those prices. The period of discoveries and colonization is associated with the rise of the independence and prosperity of the states and cities of the Atlantic seaboard in Europe, and the accompanying decline of the commercial and economic importance of the Italian peninsula and the Eastern Mediterranean.

GENERAL NATURE OF THE DISCOVERIES OVERSEAS

The first important western European state to take an interest in overseas exploration was Portugal. Under the auspices of Prince Henry the Navigator, the Portuguese sailors began, before the middle of the fifteenth century; to discover and explore the islands in the Atlantic lying off the coast of Portugal as well as the northwestern coast of Africa. A generation after this, Diaz, skirting along the western coast of Africa, discovered the mouth of the Congo River, and later the southern extension of the African continent, around what we now call the Cape of Good Hope. Finally, in 1498, Vasco da Gama at last achieved the century-old aspiration for a direct overseas route to India. In May of 1498, he arrived at Calicut, after having sailed around the Cape of Good Hope and across the Indian Ocean. Two years later, Cabral discovered Brazil and laid the foundations of the great Portuguese Empire in the New World.

Even more important were the discoveries carried on under the auspices of the Crown of Spain. A daring and persistent Italian, Christopher Columbus, received the support of the Queen of Spain for his project, and in 1492 reached what he supposed to be some outlying island of the East Indies. In later voyages he not only discovered more islands, but also touched the mainland of the western continent. The Spaniards were lucky enough to find precious metals in Mexico and Peru, but northern Europeans generally continued for

generations to regard the North American continent as an irritating obstacle in the way of a successful westward voyage to the East Indies. Most of the navigable rivers, estuaries, and bays along the Atlantic coast were entered by one or more European navigators in the hope that a voyage of a few days would show them a passage to the coveted goal. The most striking of the Spanish explorations was that of Magellan, one of whose vessels completed the first circumnavigation of the globe in 1522. Though Magellan was killed in the Philippines, some of his sailors returned to Spain with the first incontrovertible proof that the earth is round. Magellan's feat was repeated (1577–80) by Sir Francis Drake, commander of an English plundering expedition to the Pacific which was cut off by the Spaniards and could not return by the regular route.

Following on the heels of these Portuguese and Spanish explorations were those initiated by the French, English, and Dutch, as a result of which the European knowledge of the eastern coast of North and South America, the coast of Africa and southern Asia, and the islands of the East Indies was notably increased. The explorations were, of course, but the antecedents of colonization. Each country made extensive claims to regions which its navigators had touched even superficially. In many cases, the real nature and extent of the lands involved remained practically unknown for a century or more. The extreme breadth and vagueness of some of these early claims is perhaps best exemplified by the famous division of the world between the Portuguese and the Spanish by Pope Alexander VI in 1493.

About this same time, the Russians began to move over the Ural Mountains into the great area of Siberia, the occupation of which was not completed until the close of the nineteenth century. Likewise, they turned to the southeast and renewed an attempt begun five hundred years earlier to reach the Mediterranean. The Byzantine Greeks had checked them before. The renewed struggle with the Ottoman Turks, successors of the Byzantines at the Straits, was destined to

last into the twentieth century, to involve every first-class power in the world, and to leave Russia as far from the coveted city of Constantinople as ever. Russia was important, but her territorial expansion, like that of the United States, has been chiefly by land, a fact which gave her a secondary place until the age of the great sea adventures had passed.

THE RIVAL COMMERCIAL EMPIRES: PORTUGAL

The general history of Europe and the world from the middle of the fifteenth century to the close of the eighteenth can best be organized about the story of the rise, ascendancy, and decline of what Professor Cunningham has called "the rival commercial Empires of western Europe." The first of these western European states to aspire to empire was the little seaboard country, Portugal. Vasco da Gama and his fellow explorers gave the Portuguese the great advantage of priority in the race for commercial supremacy. Portugal, with vast possessions in the East Indies and South America, was far ahead of all her competitors; but the foundations upon which this power rested were far too frail to support so pretentious an edifice. The Portuguese were without experience in colonial administration and had no trained body of colonial officials and administrators. Graft and corruption, private profit and favoritism at the expense of national interests, and a short-sighted policy of frightfulness in dealing with the natives made needless and interminable trouble in the East Indies and invited competition. Little attempt was made to organize the sources of supply.

Equally great difficulties in selling the Oriental goods to the European markets were dealt with in the same haphazard way. Lisbon's land connections with the rest of Europe were poor. No Portuguese organization existed for distributing the products, and no consistent effort was made to create one. The result was that buyers came from northern Europe to Lisbon for the goods and carried them off to enrich old markets such as the cities of the Low Countries. This not

only cut down the possibilities of profit, but it also endangered the monopoly. In time, the northern Europeans were certain to sail past Lisbon and attempt to tap the Eastern sources of supply. Portugal's monopoly rested upon a maritime supremacy which her population and resources were too small to maintain. The customs of the time regarded as perfectly normal such depredations of commercial rivals as would now be called piracy. Before long, the vital drain of the East India trade began to be felt in the form of a shortage of sailors. Peasants who were sent to sea had to be replaced by African slaves, and an actual decline of the Portuguese population set in. For over a half-century after 1580, Portugal was under the Spanish Crown. During this period, Spain greatly neglected opportunities in the East Indies in order to become practically supreme in the New World. The Dutch, who had just achieved their substantial independence, captured the leadership in the importation of spices from the East.

SPAIN

When, in 1556, Philip II succeeded his father Charles I (better known as Charles V of the Holy Roman Empire) as King of Spain, there seemed every prospect that Spain would remain what it then was, the most powerful of the modern states. It was fortunately situated geographically with respect to overseas expansion both in Africa and in America. Sailors under Spanish auspices had taken an important part in the discoveries, and Spain had marked out vast claims. At home, the country had been united, at least in name, by the work of Philip's ancestors, particularly Ferdinand and Isabella. The kingdoms of which it was composed jealously clung to their ancient privileges, however, and any attempt to create an adequate national system of taxation was almost certain to start a civil war; but it seemed likely that real consolidation would in time take place.

In addition to Spain, Philip controlled the richest section of northern Europe, the Netherlands, including what is to-

day both Belgium and Holland. By ties of history and family relationships, he was allied to the greatest political organization of central Europe, the Holy Roman Empire. Furthermore, Spain had at this time the most powerful navy possessed by any European state. By 1550 her revenues in gold and silver from the New World had already surpassed the total output of the old. The insistence of the Germans which had led to the separation of the Empire from Spain on the abdication of Charles V (Charles I of Spain) in 1556 had really been a Godsend to the latter. During the Protestant Revolt, which had come to a truce the previous year at Augsburg, the German lands had been a millstone around the Spanish neck, drawing off forces and revenues which a newly united country with great internal problems yet to solve could ill afford to spare. In fact, Philip's great-grandfather Ferdinand had moved heaven and earth to prevent the original union of Spain and the Empire.

Spain's strength in 1556 was potentially very great, but actually less than it appeared. An enormous work of economic consolidation was necessary before this strength could be safely exerted. Charles's wars with the Turks, the French, and the Protestants had been expensive. Ferdinand's expulsion of the Jews in 1492 had left Spain without experienced financiers, and the increasing persecution of the Moors was destroying the most important industrial class. They were not finally expelled until 1609, but Philip ejected them from the prosperous regions and made them worse than useless to the State. Aragon was poor and rebellious, and had to be subdued by a Castilian army in 1591. Portugal was brought under the Spanish Crown in 1580, but never yielded revenues, military strength, or affection. The first serious attempt really to unite the countries led to a successful Portuguese revolt in 1640.

Three important sources of revenue remained: Castile, the Americas, and the Netherlands. Castile needed long and patient economic reconstruction to replace the contributions of Jews and Moors. Moreover, it had never been organized

as the center of a commercial empire. Most of the treasure from America enriched private individuals rather than the royal treasury. Quite the opposite of his father, Philip had grown up in Spain, considered himself a Spaniard, and was unpopular in the Netherlands. The zeal of his religious persecutions was at least understandable in racially conglomerate Spain, but the application of the Spanish Inquisition to the urbanized Low Countries was the last straw to a proud commercial people already exasperated by heavy taxes and clumsy foreign rule. The local nobles and burghers took the name of "beggars" from a foolish remark of one of the advisers to the Regent (Philip's half-sister), when a group of them came to court in 1566 with a serious petition. This became the catchword of national sentiment, and people in the cities put on as insignia tiny replicas of the beggar's wallet and bowl. The movement, at first national and economic, got out of control. Mobs of Protestants began smashing religious relics, invading monasteries, and persecuting zealous Catholics. Philip sent the Duke of Alva with an army to restore order and punish heresy.

Spain's economic difficulties now began in earnest. Alva's activities in the southern Netherlands, the highly industrialized part, ruined the prosperity of the region and drove thousands of refugees abroad. His heavy and ill-advised taxes were as bad as his persecutions. Revenues fell off and it was necessary to increase taxes in Castile. The Government at home was corrupted by the general introduction of half-annates — officials surrendering one half of the first year's salary. Titles were sold, as well as taxed in transmission from father to son. The coinage was debased. The Church was mulcted of enormous sums (over $6,000,000 annually after 1561), ostensibly to equip galleys for fighting the Turks. Many people bought their way into the tax-exempted class of *hidalgos*, and important government revenues were permanently alienated for ready cash. Passing over the *alcabala* or sales tax, which drove innumerable merchants out of business, the stamp taxes, the confiscations

for supposed offenses against religion, and some amusing sources of income such as selling legitimacy to people born out of wedlock, we come to the *limosna al rey*, or "alms for the king," which suggests the desperate straits of the Government. A house-to-house canvass was made by gentlemen of the court, accompanied in each case by a parish priest and a friar, and each citizen was asked to give what he could spare! The rapid rise of prices in Spain put the country in a position faintly analogous to that of a gold-mining camp, where the precious dust is no more easily got than spent.

By 1560 Spain owed Flemish, Italian, and German bankers about $100,000,000. The current rates of interest were from 15 to 30 per cent, and much of this debt drew even more than the latter rate, due to the fact that it had not been paid when due. Finally, Philip II was unable to meet his interest, and the Italian bankers cut off his credit, the Genoese relenting when he assigned to them certain specific revenues of the Spanish State. The armies were chronically unpaid, and often in revolt, leading to such untoward events as the sack of Antwerp, Maestricht, Ghent, and other cities in 1574. Philip's unwise financial practices played into the hands of the Dutch. Frankfort, Genoa, and other places at first profited by the fall of Antwerp. The Genoa fairs declined after about a half-century, and Frankfort gradually fell under the domination of Amsterdam. This city eventually fell heir to much of the old financial greatness of Flanders — Antwerp in particular.

Not only the system of taxation, but the general economic policy of the Spanish Government as well, tended to dry up the sources of wealth. Philip's various wars drew off large numbers of sailors and injured the fishing industry. The seven million sheep of the *Mesta* or privileged gild[1] of wool growers fed foreign mills for the most part — all Spain did not produce as much woolen cloth as the single city of Bruges.

[1] This association of wool producers was really a trade gild, as Dr. Julius Klein has clearly shown in his great work, *The Mesta*. The fact that the product in which monopoly was sought was of country origin must not be allowed to suggest anything manorial in the organization.

After the expulsion of several hundred thousands of Moriscos, Spain was not even self-supporting agriculturally. The privileges accorded the *Mesta* prevented the extension and intensification of agriculture. Laws were even passed compelling the restoration to grazing of lands which had formerly been used for that purpose. Labor being scarce, wages reached such levels that great numbers of French agricultural laborers drifted in. This purely temporary immigration did not greatly help the situation in the regions, such as Granada, where the need was for intensive agriculture. Spain's backwardness in industry led to a great influx of French artisans also. Like the laborers, these failed to take root, working to accumulate money and return home. Descriptions of gilds and fairs in Spain at this time remind us very much of northern France at a far earlier period.

Spain of the sixteenth century, a grazing country with insufficient agriculture, lagging industries and a population of some seven millions which was increasing very slowly, did not have the financial and industrial organization to serve as the nucleus of a great permanent empire. Numbers were wanting to found colonies and to man fleets and armies for defending them on so vast a scale. During the seventeenth century, population fell off and, like that of Portugal earlier, the whole Spanish social fabric began to show signs of disintegration. Not a few contemporary writers and statesmen saw the difficulties, but it was physically and morally impossible to solve them with the means at hand. Such fortunes as were quickly amassed in the colonies made the slower and more permanent labors needed in the home country seem all the more irksome. The lure of a military career drew a great many, and used them up. Manual labor was in disrepute, due to feudal traditions, to the enormously long history of slavery in Spain from Roman times, and to the mixture of races and religions. Tens of thousands turned vagabond, and other tens of thousands went into religious orders.

Mercantilism, which involved state control of all forms of industrial and commercial life, was developed to a far higher

and more absurd degree in Spain than in other European states. Partly as a result of a general theory that the State should rigorously control economic life and maintain the largest possible balance in treasure, partially due to the necessity of protection from English and other privateers, Spanish commerce was most thoroughly controlled and closely watched by the mother country. Merchants were not allowed to sail whenever they pleased, but were compelled to send their ships with a great fleet which left Spain for America or the American colonies for Spain at stated intervals. In some cases the voyages were separated by a year, or even more. Though this system was later somewhat modified, and the trade which it envisaged was supplemented by much smuggling, the total amount of commerce between Spain and the New World remained quite inadequate.

The Spanish merchant, hampered by such a system of regulations, could achieve little in competition with the relatively free and daring merchant of the Netherlands or England. Too much stress was laid upon the mining of precious metals, and too little upon the development of a healthy economic life in the colonies. These were forbidden to produce many such commodities as wine, which might compete with Spanish goods, but which Spain was unable to furnish in the quantities demanded. The Spanish, like their French cousins and co-religionists, practiced more social and racial admixture with the natives than did the English and Dutch in America, yet this assimilation did not prevent them from exploiting the native population.

Spain came into sharper collision with England over the Americas than with any other one power. The destruction of the Spanish Armada by the sailors of Elizabeth in 1588 is sometimes taken as the crucial event in the decline of Spanish prestige in Europe. Under the tutelage of the Continental Hansards, England had developed a solid economic framework which was not yet too old, complicated, or unadaptable to changing conditions. The English were a fairly united people as to language and customs without the necessity of any

such purging operations as robbed Spain of valuable economic elements. Moreover, England's position next to both the Atlantic Ocean and the seas and river mouths of northwestern Europe gave her a natural advantage which told more and more heavily as ocean navigation developed.

Too little attention has been paid to the geographical disunity of the Iberian peninsula and to its relative poverty in natural resources as factors in its slow economic development. The difficulty of establishing interior lines of communication hampered the growth of national industry, the Mediterranean ports are cut off by near-by mountain ranges, and the Atlantic seaboard cities are too far from the great markets of Europe. England's isolation and comparative freedom from attack were important, particularly during the period when she was practically self-sufficing economically. On the other hand, Spain's too-rapid enrichment through American precious metals made her peculiarly vulnerable, especially since other nations displayed more ingenuity in developing navies at a time when great innovations were taking place. Many of the phenomena of actual inflation occurred in Europe through the swift increase in the money metals themselves, and were naturally more manifest in Spain than elsewhere.

The Spanish Government is not to be criticized on moral grounds for a policy of colonial exploitation which was quite general at the time. It is the economic unwisdom of the system, in the light of results not fully visible then, which commands attention. The Spanish colonies, hampered by regulations and inadequately served by the fleets from the mother country, established an immense, mutually profitable smuggling trade with the commercial peoples of northwestern Europe.

Since it is so frequently mentioned and so seldom described, a brief glance at the Spanish colonial trade organization might be profitable. At the head was the *Casa de contratación*, created in 1502, with its headquarters in Seville, but moved to Cadiz in 1517. Its activities were a strange mixture of the commercial and the political, though the former were

supposed to predominate. Heavy taxes, the *averia* and the *almojarifazgo*, were imposed upon cargoes both outward from Spain and homeward from the colonies. The captains-general in the colonies enjoyed a jurisdiction which some neglected and others abused. As in Spain herself, the Church exercised vast powers in the colonies, held much land, and spent large sums in the rearing of great buildings in the midst of an appalling general poverty. Latin-American historians, themselves perfectly loyal Roman Catholics, have accused the religious orders of those days of fostering a willful ignorance which was fatal to economic development, hoping to prevent the spread of heresy.

Nothing escaped regulation to develop naturally in this new and strange world; yet this control was split up among conflicting and overlapping authorities. From Florida or California through the entire tropical belt to Cape Horn, every variety of condition had to be met. Any bureaucratic system, striving for something like uniformity of administration and policy, would have been bad, and this one was not even the least of evils. Some of the Spanish territories in the New World were already fairly densely populated. Others possessed climatic and soil conditions which invited the importation of slaves. These added the diseases and some of the customs of Africa to what would have been a medley of discords in any case. The Spaniards were not severe with their slaves, in comparison, for example, with the French. Many were liberated in Spanish Santo Domingo, and the remainder practically lost their African religion and customs, whereas in French Saint-Domingue (now Haiti) there are copious vestiges of Africanism to this day. Santo Domingo was exceptional, as a colony which did not pay, but any general charge that the Spaniards neglected what they considered to be their duty toward more primitive peoples would be unfounded.

Every colonial system must have a good deal of flexibility in it somewhere, to meet varying conditions. The British hit upon a considerable degree of autonomy — largely by

accident. France's possessions were less extensive than Spain's, and less manageable than those of Great Britain, in the latter case largely because of the climates, the proportion of natives, and of inferior accessibility in the particular instance of the North American mainland. French industry was better developed than Spanish, the resources of the home land were greater, and the country was more fortunately situated relatively to the markets of northern Europe. For these and other reasons, the French colonial administration was better organized, and far better manned, than the Spanish, though very little if any less bureaucratic. The Spanish system, as it appears on paper, could not possibly have worked, but it gained a flexibility largely by being tempered, if not honeycombed, with corruption.

Precious metals were, in theory, reserved for the Spanish Crown. In fact, the Government was defrauded of a large part of this revenue. This was true also of the heavy taxes which the *Casa de contratación* was supposed to collect, keeping elaborate accounts of all cargoes. The temptation to officials not to enter items proved too great, and as early as 1660, the taxes were replaced by a fixed payment (790,000 ducats).

Ordinarily, the galleons went from Cadiz to Cartagena (now in Colombia), stayed about four months, and then proceeded to Porto Bello, on the Isthmus of Panama, to discharge and receive the cargoes to and from Peru, far down the West coast of South America. After about two months, they proceeded to Havana by way of Cartagena. The trip to Vera Cruz, in Mexico, was made either from Havana or direct from Cadiz. When there was any danger, which was the usual thing, the Spaniards tried to have very powerful convoys from Havana to Cadiz, as the return cargo was extremely valuable.

Foreign interlopers — English, French, Dutch, and Genoese especially — broke into this supposedly closed circle of trade at almost every point. They carried merchandise to and from one Spanish colony to another, which was forbidden,

THE COLONIAL SITUATION
ABOUT 1689
British possessions
Dutch possessions
French "
Portuguese "
Spanish possessions
NORTH
AMERICA
Hudson Bay
NEW FRANCE
Acadia
NEWFOUNDLAND
LOUISIANA
NEW SPAIN
TEXAS
Florida
Bahama Is.
Bermudas
St. Domingo
Hispaniola
Porto Rico
Cuba
Guadeloupe
Martinique
Granada
Barbados
Caracas
New Granada
Cayenne
PACIFIC
OCEAN
ATLANTIC
OCEAN
BRITISH ISLES
England
DUTCH REP.
FRANCE
SPAIN
PORTUGAL
AZORES IS.
Gibraltar
MADEIRA IS.
CANARY IS.
C. VERDE IS.
Gorea
Cape Coast Castle
ST. HELENA
PERU
CHILE
SOUTH AMERICA
BRAZIL
FALKLAND IS.
C. Horn
60
40
20
0
60
40
20
0
20
40
60
160
140
120
100
80
60
40
20
0

40
60
80
100
120
140
160
180
80
60
40
20
0
20
40
60
ARCTIC CIRCLE
TROPIC OF CANCER
EQUATOR
TROPIC OF CAPRICORN
ANTARCTIC CIRCLE
S I B E R I A
RUSSIA
ROPE
A S I A
PACIFIC
OCEAN
INDIAN
OCEAN
INDIA
BENGAL
Calcutta
Aracan
Macao
Bombay
Goa
Madras
Pondicherry
CEYLON
PHILIPPINES
SUMATRA
BORNEO
CELEBES
MOLUCCAS
NEW GUINEA
Ft. York
JAVA
Sofala
REUNION
Colony

and also, to some extent, to and from their home ports. Treasure ships and fleets of merchant ships were attacked and pillaged, in time of peace. One of the most important leaks was the corruption of Spanish officials at Cadiz, allowing merchandise from northwestern Europe to go to the Spanish colonies without paying the heavy dues. Professor Sée [1] cites a memoir of 1691 which estimates that more than ninety per cent of the merchandise shipped from Cadiz at that time was of French, English, Dutch, Genoese, and Flemish origin, passed under Spanish names or through Spanish commissioners.

The above date (1691) is, of course, more than a century beyond the greatest effort of Spain to subdue the Dutch and crush the English. Queen Elizabeth had more or less openly aided King Philip's revolting Dutch Protestant subjects. English privateers practiced what would now be classed as piracy upon Spanish merchant fleets and trading stations. If an excuse was deemed necessary, Philip's eminence as a royal supporter of the hated Roman Church was called to mind.

When the English and Dutch practically closed the Channel to Spanish ships, thus blocking the only practicable route to the Netherlands, Philip collected a grand fleet, the Armada, to break through. His plan was to establish connections with the army in Flanders and then to launch a great naval and military attack against England. The expedition of 1588 failed disastrously because of poor strategy, unfavorable weather, and the greater speed and range of the English fleet. Instead of crushing the English navy and overturning the Government, the expedition reduced Spain to a second-class sea power, laid her colonies and commerce open to greater depredations than ever, and practically assured the success of the Dutch struggle for independence. Leadership in ocean commerce, backed by the power of fleets and imagi-

[1] *Les Origines du Capitalisme Moderne*, p. 57. The best single source for Spanish colonial trade is probably Clarence Haring: *Trade and Navigation between Spain and the Indies in the time of the Hapsburgs.*

native economic organization at home, gradually passed to the English and Dutch. The southern part of the Netherlands, which remained in Spanish hands, was largely ruined in the struggle, and France was relatively strengthened by the misfortunes of Spain. The long age of southern European economic leadership was drawing to a close.

THE DUTCH

The withdrawal of the herring industry from the Baltic into the North Sea was a blow to the Hanseatic League, but it helped lay the foundations of Dutch commercial greatness. In this industry, the Dutch and English were fated to be rivals because of geographical position. While less dramatic and romantic in appeal than the struggles between the trading companies, the North Sea fisheries remained one of the chief bones of contention between the two nations until the issue at arms was finally joined in Cromwell's time. The inevitable relationship between North Sea fishing and Baltic trade is seen in the history of both of these successors to the German Hansards.

During most of the seventeenth century, the Dutch were the commercial leaders. Though they had strong rivals, especially at the opening and the close of this century, we must avoid making their rise and decline too dramatic. A number of cities in the Protestant Netherlands had been important earlier, though overshadowed by those of Flanders. The northern or Dutch part profited enormously by the Spanish ravages of the southern in the reign of Philip II. Not only artisans, but merchants and bankers as well, emigrated from Antwerp and Bruges to Amsterdam and Rotterdam, carrying the business with them. By 1625 the last two were among the leading commercial cities of Europe, which had been far from the case a half-century earlier. In still another twenty-five years they had surpassed all their rivals.

Viewed historically, therefore, the Dutch first attract our attention as traders in the North, Baltic and White Seas, and, as noted above, in the rôle of interlopers in Spanish

colonial trade. The Thirty Years' War (1618–48) ruined the German Hanseatic cities and thus played into the hands of their rivals. English competition for the Baltic commerce might have been much more severe but for the difficulties of the first two Stuarts with their Parliaments, which were always niggardly with "ship money." Cromwell's first navigation Act of 1651, which led to the actual conflict, was really a firm and dextrous application of the commercial-naval policy of Charles I. What a king had failed to do, and the great Civil War had again postponed, the dictator was able to carry out.

In addition to the rivalry in the North and Baltic Seas and in Russia, both the Dutch and the English had active trading ventures in the Levant. Finally, the better-known struggles in the East Indies and in America grew steadily in importance. The Dutch East India venture began in 1602 in six semi-independent groups representing as many cities, with a loose and somewhat vague general administration to join them. Not until 1652 were they organized into a single "company" worthy of the name — the reason for this union being that competition between them had been disastrously affecting prices. Amsterdam furnished half the capital and one third of the directors of the new East India Company. The most important plantations were in Java, Macassar, Ternate, Amboyna, and Ceylon. The struggle for the mainland of India finally narrowed down to England and France, but the Dutch were too solidly in possession of the spice trade of the islands to be uprooted. In our age of world trade, steam transport, and refrigeration, the importance of their virtual monopoly of the one product, pepper, is very difficult to appreciate. England, the chief rival, gave up the competition in the islands before the end of the seventeenth century. Other than economic reasons figured in this. The two countries were allies against the French, stood more or less together as Protestants, and even had their crowns united for a time after the flight of James II from England in 1688.

Only after decades of unsatisfactory attempts to finance voy-

ages separately did a real joint-stock enterprise emerge, with pooled capital, continuous corporate directorship, and adequate permanent facilities for handling the trade at both ends. The Dutch East India Company was in many ways the model of the large number of privileged trading companies established by other countries during the seventeenth and eighteenth centuries. It had both shares of stock and what we should call bonds, or guaranteed obligations, these latter paying 3½ per cent interest. Stock dividends, like the market price of the stock shares, varied enormously. The yield sometimes reached 25 per cent, and 15 per cent was not unusual. Speculation in the shares was rife, false news was skillfully manufactured and sprung upon the exchange to force the price up and down, and men dealt in what we would call futures, — agreeing to take or deliver certain amounts at future times, without the slightest need of handling any actual stock whatever. As a general thing, only those with a certain amount of ability and knowledge survived at this intricate game. Thus speculation tended to stabilize rather than unsettle the price, and whole years went by without a variation of more than 2 per cent in the value. By the end of the seventeenth century, the original investment of 600,000 florins had increased a little over ten times in market value. The organization of the Company was not unlike that of a state. It had its Directors, its Assembly of Seventeen, and its General of the Indies to carry on the work on the ground, besides a crowd of well-paid officers and functionaries, who often misappropriated its funds in spite of their fat pay envelopes.

The Bank of Amsterdam, founded in 1608, was not a bank of issue. Neither was it, strictly speaking, a credit institution, although it loaned much money to the East India Company, and some also to the city of Amsterdam. So important did it become as a bank of deposit, however, that a merchant was practically obliged to have an account there, and to make and receive his payments by transfers of deposits, in order to enjoy first-rate credit. "Bank money" commanded a premium over coin. The premium was partly

natural, for much of the coinage was light weight, and partly artificial, for it depended upon the price (in "bank money") at which the bank would buy and sell coin. Instead of handing checks to the payee to collect, the drawer, if a private person, was obliged to go to the bank himself, or send an accredited agent to have the transfer made. The bank dealt in foreign bills of exchange, and handled the payments of the East India Company. After the middle of the seventeenth century the bank made loans, notably to the East India Company and later to the city of Amsterdam. These loans were secret, and ultimately led to the bank's undoing. This bank was by far the most important which had existed thus far in the world. It was thoroughly interknit with the maritime commerce of Holland. There appeared eventually, in connection with the system of which it was the center, most of the characteristic phenomena of modern capitalism: stock companies, stock speculation, dealing in futures, and the purchase and sale of commodities by standardized samples without the necessity of seeing the actual goods.

The Dutch West India Company likewise began with a number of disconnected ventures. Sir Henry Hudson was sent out by one of them in 1609. The New Netherlands Company was chartered in 1615, particularly to monopolize the fur trade of the New World as against all other Dutchmen. Those groups operating west of the Cape of Good Hope were fused into the West India Company in 1621. It wasted a good deal of energy in futile attempts to conquer Brazil and various Spanish possessions in South America, but it held a section of Guiana, and the island of Curaçao furnished a marvelous base for the contraband trade with Spanish America.

Holland's chief asset was her geographical position. A curious series of historical accidents undoubtedly aided her in making the most of this. As already noted, English competition was held back for nearly a half-century at the most critical time by quarrels between the early Stuart Kings and their Parliaments. Louis XIV of France was unable to con-

quer the Free Netherlands in a series of wars after 1667. This was partially due to the naval and commercial strength of the Dutch, even after a decade of English assaults upon Dutch trade and the taking of some colonies, of which the New Netherlands (New York) was the most important. The long-continued commercial greatness of the Dutch after the attacks, one following upon the other, by two powers each possessing much greater natural resources is partially explained by the rivalry of the aspirants with each other. England could not afford, either as a Protestant country or as a trading country, to allow a complete conquest by France. Moreover, France was also in trouble with Spain, and the Spaniards were glad to strike a blow at the French by throwing a highly lucrative trade to the Dutch. Before the end of the century, the titanic struggle between France and England was on. It was destined to last, with brief intermissions, until 1763. Besides being the allies of the English in the early stages, the Dutch were left to pursue their commerce more or less tranquilly until the end — sometimes actually profiting by wars in which they were neutrals. Their preeminence in the grain trade to southern Europe was one of the strongest pillars of their economic structure.

Dutch commerce continued to prosper, and even to grow in volume, until about 1730, after which it remained practically stationary. While no absolute decline occurred, the rapid increase in England's trade put her decidedly in the lead by 1750. If we remember that the economic decline of the Netherlands was merely relative, much of the mystery which has been woven around it disappears. The population of these two countries did not differ greatly in numbers during the seventeenth century. More than half of the Dutch people lived in towns, probably less than a quarter of the English. This means exactly what it seems to: that the Dutch Netherlands were in advance of England in economic organization. It also means, however, that the Dutch population was much nearer its maximum. England alone, without counting the rest of the British Isles, has four times the

area of the Netherlands, and is vastly richer in natural resources.

Moreover, the insular position of England spared her much military expense and gave her a security from invasion and a freedom of development not possessed by any Continental country. This is particularly true of the Netherlands, in an exposed position by both land and sea. Taken alone, the dependence of the Dutch upon sea communications was a weakness. In the case of England, this was more than compensated for in the days when she was self-sufficing by the absence of dangerous land frontiers. Finally, the want of a unified policy, either political or economic, in what amounted practically to a loose union of city-states, placed the Dutch at a serious disadvantage in the three-cornered contest with England and France. Much of this goes back to the fundamental factor of the lack of natural resources at home. The Dutch owe their continued, and even revived, economic importance to-day to the profitable remnant of their colonial empire, to their highly developed dairying industry, to the growth of their carrying trade in the nineteenth century, and to a few important manufacturers who are able to maintain themselves in spite of dependence upon foreign raw materials.

A real attempt was made by the Netherlands to build up industries to match the growth of commerce. This was aided by the immigration of persecuted Huguenot capitalists and artisans from France. That it did not succeed any better is undoubtedly due largely to relative poverty in natural resources. In other words, the charge that the Dutch were too purely commercial in their capitalism to keep up with countries which industrialized themselves more rapidly may be true, but this does not mean that the situation arose from their short-sightedness. It is easy to criticize their economic organization. Chartered companies were given too much power by a loose home government inclined to shirk the task of establishing satisfactory political connections with the colonies. Thus government was subordinated unduly to economics, and the colonists had little feeling of loyalty or re-

sponsibility toward a state in whose policies they shared hardly at all. The result was reflected in the alacrity with which the Dutch at New Amsterdam surrendered to the British fleet, the paid governor and staff standing practically alone in their loyalty.

The Dutch East India Company grew more and more corrupt and unprogressive, actually borrowing money at last in order to hide its bankruptcy. Its last dividend was paid in 1782, and when it was dissolved in 1798 it was found to be over fifty million dollars in debt. During the half-century following the Napoleonic wars, Great Britain gave back all the Dutch possessions captured while that great struggle was going on, with the exception of Ceylon and Cape Colony. The East India trade and plantation system was carefully reconstructed during the nineteenth century, first as a government-controlled monopoly and later with more freedom of private enterprise.

Other Teutonic peoples of the Continent lagged far behind the Dutch in the race for overseas dominion. Had the Great Elector (1640–88) been followed by a line of successors with a vision equal to his own, Prussia might have developed considerable importance as a colonizing and commercial power some two hundred years before the awakening under Bismarck and William II. The Great Elector established a small colony on the Guinea coast of Africa, and laid the foundations for a German navy. His successors, however, sold his colony to the Dutch in 1720 and did little in the way of increasing the Prussian fleet.

THE STRUGGLES OF ENGLAND AND FRANCE

Though the eventual ascendancy of England over the Dutch seems to us pretty definitely assured by the time of the Stuart Restoration in 1660, it was by no means so certain that she would triumph over all contestants for overseas dominion and commercial supremacy. To modern eyes, England, with her vast colonial empire, is likely to appear a far stronger power than France, but the situation in the middle of

the seventeenth century was practically the reverse. France was a wealthy, powerful and well-centralized state, with a population of some fifteen millions, while England was a small country, with six or seven millions. The explanation of the fact that after a hundred years of struggle England was able thoroughly to defeat France in the race for colonial empire must be found on other grounds than a comparison of apparent strength and material resources at the beginning. Even the trained observer might very well have classed France above England in industrial development, on the basis of what he could see. Peter the Great of Russia, who visited western Europe at the close of that century, made no such mistake, but Peter was no ordinary student. English political institutions turned out to be better suited to a program of expansion, and the type of colonial administration which she developed in the areas overseas proved more vital and adaptable. More obscure but probably quite as much to the point is the fact that her social development and condition at the time provided a surplus of farmers and artisans willing to move permanently with their families to a strange but promising land.

Earlier than any other major European state England had broken away from the medieval economic and political system. The Wars of the Roses practically finished feudalism, and a strong national monarchy appeared as early as 1485, when Henry VII founded the Tudor line. The economic and social foundations of the feudal order were already pretty thoroughly disintegrated. Manorialism had been undermined by the rise of the towns, the growth of the wool trade, the various effects of the Black Death, and the rise of the English corn market. The way had thus been prepared for the free peasantry and the age of yeomanry that was to last until the great period of enclosures following 1740. During the Hundred Years' War many Flemish weavers had come to England and laid the foundations of a great woolen industry. From that time on, England had been a powerful competitor of the Continent in the cloth business.

The English gild system had become so weakened by the fifteenth and sixteenth centuries that it could put up little opposition to the new industrial developments, and a different system of organization appeared in certain industries. This is known as the "domestic" or "putting-out" system. This new type of industrial order involved the intervention of a capitalist or organizer between craftsman and consumer — a man who owned the raw materials, and often the tools, hired the workman for wages and made his living by marketing the goods at a profit. This new system, plus the growth of the weaving industry and the greatly increased development of sheep-raising, combined to make the period of the fifteenth and sixteenth centuries in England a sort of earlier "industrial revolution" (under commercial leadership), to which England owes the beginning of her present supremacy in textiles. In the latter part of the sixteenth century, English commercial and maritime enterprise was still further developed. A result of the growth of English privateering was that it stimulated individual enterprise and also enriched the privateers and the royal Treasury.

In addition to her commercial and industrial development, England's policy with respect to Continental warfare was one from which she profited as compared with France, Spain, or the Holy Roman Empire. After the Hundred Years' War, England relied mainly on diplomacy and financial aids and participated little directly in the wars on the Continent, thus saving resources in men and money which were lavishly wasted by her competitors. That the Continental powers did not do likewise is of course no moral stigma upon them. It was England's fortunate geographical isolation which enabled her to fight or stand aloof at will, to specialize economically and yet be reasonably free from the menace of a large industrial population likely to be suddenly shorn of its tools or markets. Moreover, the future proved to be with the nation which could put a large volume of staple goods on the market at a small margin of profit on each article. This program presupposes an enormous amount of tools, a

wide distribution of such skill as is required, and long periods of relative peace and stability in which to accumulate both.

While France appeared for the moment to be far stronger than England, her political and industrial situation was by no means as promising for the future. The feudal system retained its hold upon France politically until the middle of the seventeenth century, when it capitulated to the assaults of Richelieu and Mazarin. Even after this period it retained many of its economic and social aspects until the French Revolution. Furthermore, the economic system of gilds and monopolies still prevailed in France though the character of the monopolies was changed through the creation of some and the fostering of others by the State. There was nothing like the same degree of freedom for the individual manufacturer and merchant that prevailed in England during this period.

France devoted a great deal of her energy to dynastic and territorial quarrels. Often in spite of the best advice of ministers, the Bourbon monarchs, bent upon humbling the rival Hapsburgs of central Europe, refused to devote themselves consistently to the problem of improving the economic life and colonial system of France. The military-minded social order, the traditions of "grand monarchy" and the presence of a fabulously luxurious court at the very heart of the national life tended to turn French industrial genius unduly toward luxury goods. Whatever their artistic merit, these were not calculated to bind the country economically to cruder lands across the oceans.

In their policies overseas, the English showed a corresponding superiority in program and achievements. In part due to the fact that the French discoveries in North America were at first practically confined to the region of the St. Lawrence, the Great Lakes, and the Mississippi, France was able easily to penetrate into the heart of the continent and to take up great claims. Being either unwilling or unable to send large numbers of Frenchmen into the New World, it was inevitable that the system of colonization should be the

extensive occupation of a large region by a small and scattered population. By the middle of the eighteenth century it is estimated that there were not over 90,000 Frenchmen in the vast area of Canada, the Great Lakes, and the upper Mississippi Valley.

By means of a series of fortified posts, the French were able to maintain a semblance of control over the heart of the North American continent. The typical French settler of the North American mainland was either a soldier or a trapper. In the West Indies he was a planter, or an artisan or merchant in one of the few towns, surrounded by a horde of black slaves. There was little possibility under such circumstances of building up a real New France, a permanent and well-solidified society. Finally, the French failed to show the wisdom of England in allowing their colonists a relatively large degree of autonomy and self-government. Aside from the loss of incentive and enterprise involved, the wisest ministers in far-off France could not visualize the myriad of practical problems which demanded solution in the strange environment of the New World.

In the long run, the great mountain barrier of the Appalachians proved a fortunate thing for the English settlers. It prevented their spread too rapidly into the West, and forced them to concentrate upon the narrow coastal plain of the Atlantic. The restricted size of this area, and conditions at home which caused a large migration to the New World, resulted in a chain of fairly compact, well-organized English colonies. These had a population of about 1,500,000 by the middle of the eighteenth century. The French colonies could boast of no such numbers, cohesion, or permanency of organization. Furthermore, England began — particularly after the Revolution of 1688 — to work out an elaborate and fairly wisely conceived system of colonial administration, which for a time succeeded in effecting a remarkable compromise between the principles of local self-government and imperial supervision. Again, the commercial policies of the two states reflected credit upon the superior wisdom of the

English. French mercantilism, somewhat like that of Spain, was of a more thoroughgoing and restrictive sort, tending to repress rather than stimulate commercial enterprise. Though at many points the English regulations were no milder on paper than those of France, they were enforced very imperfectly down to 1763. As a matter of fact, the commerce of both mother country and colonies probably was advanced rather than retarded by the English mercantile system. Finally, of all the European states at the time, England was most successful in working out a happy balance between territorial expansion and commercial gain. This tended to give her a twofold supremacy in both the political and commercial realms.

It was more or less evident that when the great struggle should come between England and France, the superior national strength of France would have to reckon with the more flexible commercial and colonial system of England. After a series of indecisive conflicts, from the close of the seventeenth century, the final struggle broke out in 1756.

France remained true to the weaknesses of her earlier policy. She devoted far more attention to strengthening her forces which were fighting in Europe than she did to adequate support for her generals and admirals in India and America. Neither France nor England had sent any great number of colonists to India. Dupleix for France and Clive for England played the military game in Hindustan with great ability and slender resources, using largely native Spahis or "sepoys" for soldiery. Of the two, Clive got more material support from his Government at home, and it was the English who remained in possession at the end. England kept aloof from the Continental conflict, with the exception of sending money and supplies to aid the enemies of France. She concentrated her attention upon the East Indies and the New World and, with the aid of very effective colonial troops, was able completely to break the French power. As a result of the Treaty of 1763, France surrendered practically all of her overseas possessions to Great Britain and,

as a colonial empire, sank into a third-rate position, from which she has emerged only since the founding of the Third Republic after 1871.

The effort to dislodge the French from the West Indies failed. Their colony of Saint-Domingue (now the Republic of Haiti) was the one great world source of sugar up to the French Revolution. Ruins of magnificent irrigation works are still visible, bits of stone châteaux still peep out of the jungles, and Cape Haitien (once Cap François) is an amazing skeleton of what was once a noble city. The tax on sugar which was a great factor in bringing on the American Revolution arose largely from the indignant consciousness of British statesmen that it was the illicit trade of their thirteen colonies with the French West Indies which had nullified their attempted blockades and made the conquest impossible. Even in the eighteenth century, Europeans still had a great deal to learn about the commercial forces which their own activities had released. The lesson was destined to cost them most of their possessions in the New World.

ENGLISH TRADING COMPANIES

English trade, as well as that of the Netherlands, profited greatly by the decline of the Hanseatic League. After the final expulsion of the League from London in 1597, the Merchant Adventurers held a virtual monopoly of the export of manufactured cloths to the Netherlands and northern Germany. It may be recalled that the Merchant Staplers of the Middle Ages had been exporters chiefly of English raw materials, such as wool, tin, lead, and leather, first working with the Flemish Hanse, but independently after the middle of the fourteenth century. As England became more and more of a manufacturing country, the character of the trade changed accordingly. Finally, during the period when the enormous new flow of specie from the Spanish colonies was taking place, and when medieval practices were being rapidly undermined by modern capitalism, the Staplers disappeared altogether. The Merchant Adventurers may be

called their successors in the sense that both were engaged in the Continental trade.

The dream of making England a first-class maritime and naval power goes as far back as Henry VIII's reign, early in the sixteenth century. That monarch's hands were rather full of other matters, including a secession from the Church. His daughter Mary made a marriage alliance with the Crown of Spain, temporarily stopped the interloping trade, and turned English efforts in other directions. The Muscovy Company sent its first expedition into the White Sea in 1553, and received its formal charter a little over a year later. It secured an important share of the Russian trade, and is notable as the first great joint-stock company. Another thrust in the same general direction was the Eastland Company, or Merchant Adventurers in the Baltic, chartered in 1579. Dutch competition proved too strong for it in the end.

In the meantime, Queen Elizabeth had ascended the throne. She had none of Mary's reasons for respecting Spanish interests and wishes. England now struck out, with more vigor than ever, for the main prizes. Whatever Elizabeth's own abilities, she was ably served by her ministers. A strenuous attempt was made to develop new economic resources, especially to make England as nearly independent as possible of foreign shipbuilding materials and ship stores. A thorough study of the ports was made, repairs and enlargements being then undertaken. Burleigh saw that, after all, the one great need of a maritime power is experienced sailors. To provide them, the fishing industry was encouraged, everything up to outright piracy against the Spaniards was applauded, and interloping on the slave trade was authorized.

Government charters and encouragement to new ventures in oversea trade were merely items in the above program. Lest this conscious phase of the development seem too important, however, we should constantly remind ourselves that the whole was a product of the new opportunities.

Private enterprise and state policies were thus united by a force greater than themselves, just as the expansion of Europe in general and the so-called "commercial revolution" at home were different but interdependent phases of the same movement.

All these English trading companies founded in the latter part of Elizabeth's reign were on the general model of the Muscovy Company of 1554. It was the Dutch, more than anybody else, who were to perfect the stock company during the following century, in connection with the East India trade. The Merchant Adventurers had appeared shortly after 1400, organized rather as a gild than as a modern commercial enterprise. Each member traded on his own account, there being no collective capital. The advantage of organization was, of course, regulation, which also carried with it the possibility of protection. Not until 1553 did a group of merchant adventurers set up what we should call a real company, with a collective capital. Trade had simply outgrown individual enterprise. This new company, chartered in 1554, was the Muscovy Company mentioned above. It began with 240 shares of stock each valued at £25 sterling. Each voyage was financed separately, the stockholders dividing the profits at the close in accordance with the investments. Other companies of the same type were the Levant or Turkey Company, mentioned above, and the Hudson's Bay Company. The African Company grew out of a series of sporadic expeditions dating from 1562, when Hawkins set out with three ships in search of slaves. Its first charter was granted twenty-five years later. The Guinea Company, which attempted really to regulate the slave trade, did not appear until 1618.

Ralph Fitch went on a long and eventful journey to India for the Levant Company, returning in 1591. To the practical effects of his observations and contacts were added an incalculable impression made by the trip upon the minds of English people. Nine years later appeared the British East India Company. Like the others of the period, it began with

a loose and awkward organization by separate voyages, only gradually outgrowing it.

The British East India Company, formed in 1600, sent out its first expedition, to Java, in the following year. Eight years were required to wind up the affairs of this voyage. In the meantime, others were organized, each a financial unit. Sometimes the same men had money in several voyages at once, but the only connection between them at the outset was through the general court or board of governors which maintained certain regulations under the charter. Even a summary of the vicissitudes of this Company during the first half-century or more of its existence would either be impossibly long for a treatise of this kind, or so simple as to appear absurd. We must therefore confine ourselves to a few observations which seem necessary by way of explanation of the struggle with Holland and France which was to follow.

At the outset, the spice trade with the islands, most of which are far to the southeast of the peninsula of Hindustan, was regarded as the important thing. Dutch competition was severe. In fact it finally triumphed, and the whole character of the original British venture was changed. Since English manufactures were to grow up only with the trade, it was found necessary to pick up cargoes on the mainland of Hindustan, including the raw silk, calicoes and other goods which the Spice Islanders demanded. A trading post was founded at Surat in 1609 and more permanently organized in 1612. A considerable capital, separate from any particular voyage, was needed to maintain such collecting organizations, and also for the disposal — oftentimes quite slow — of the cargoes which were brought back to Europe. The East India Company became a real joint-stock enterprise in 1622. Another half-century or so intervened before the extreme crudities of organization were eliminated.

Much trouble was experienced with interlopers — people who remained outside of the Company and its regulations, but actually organized voyages to the Indies. These men

often had no interest in the solid future of the trade, and did not hesitate to make trouble with natives or rivals if they could immediately profit by it. The struggle with the Dutch in the Spice Islands during the early part of the seventeenth century was but one phase of a much broader one between the two rival commercial empires. England's real future in the East India trade was to lie on the mainland rather than in the islands. This "division of labor" with the Dutch was becoming visible by about 1630, though a half-century was yet to roll by before it became definite and complete.

A commercial empire being a system of outworks connected with the central organization, one must always consider any part of it in relation to the others which obviously affect it. The reactions of the cloth and indigo trade upon industry and finance played an important rôle in producing the "commercial revolution" at home, which will be mentioned in more detail in the next chapter. Conversely, economic developments in England profoundly affected the commerce with the East Indies. Even at the risk of seeming intricate, the remark must be made that English ventures in the New World during the same period affected the East India trade through the home organization, and *vice versa*. The East India Company underwent a great transformation in the eighteenth century, and was not finally disestablished until 1858.

England occupied Barbados in 1605, Bermuda in 1612, St. Kitts in 1622–24, and finally Jamaica in 1655, after a futile attempt to capture Santo Domingo itself, the oldest of the Spanish colonies in the New World. The London and Plymouth Companies which loom so large in American history were joint-stock enterprises. By 1624 the total capital of English companies for exploiting North American colonies was about £300,000 sterling, the Virginia venture alone representing roughly two thirds.

Spanish statesmen did not take the Virginia settlement very seriously as an economic enterprise at the outset, but

they were very much concerned over its possibilities as a base of operations against their treasure fleets and territories. James I at first side-stepped any responsibility for the protection of the colony, avoiding war with Spain by the assurance that it was purely private. The Spaniards did not want to provoke a war, so they avoided any openly hostile move against Virginia. Besides the Thirty Years' War and other distractions in Europe, this desire on England's part not to seem too aggressive in the New World started her American colonies in an atmosphere of unusual freedom from regulation for those times. Not until nearly the end of the century was any thorough and systematic interference attempted by the mother country.

This and the origin of the English colonies under the auspices of advanced types of business organization contributed to a singular freedom from the lumbering vestiges of the medieval European economic and social system which handicapped Spain so severely — France to a lesser degree. In the case of the Massachusetts Bay colony, the general court (or board of directors, as we would now call it) was removed to America, and the newer economic flexibility of the stock company was carried over in part into the field of government. The capture of New York from the Dutch put England in a very strong position. The very want of any organized system of governmental control at the outset, which might have led to a crippling uniformity in defiance of local conditions, was not, in the end, to prove a source of weakness.

SUGGESTIONS FOR FURTHER READING

Beazley, C. R.: *Prince Henry the Navigator.*

——— "Prince Henry of Portugal and his Political, Commercial and Colonizing Work," in *American Historical Review*, 1912, vol. XVII, pp. 252–67.

*Beer, G. L.: *Origins of the British Colonial System*, chap. I.

*Bolton, H. E., and Marshall, T. M.: *The Colonization of North America, 1492–1783.*

Bourne, E. G.: *Spain in America.*

Brentano, Lujo: *Die Anfaenge des modernen Kapitalismus.*

Chapman, C. E.: *A History of Spain*, chap. XXI.
*Cheyney, E. P.: *The European Background of American History*, chaps. I–III.
Cunningham, W.: *An Essay on Western Civilization in its Economic Aspects*, vol. II, bk. V, chap. III.
——— *The Growth of English Industry and Commerce, during the Early and Middle Ages*, part V.
Day, Clive: *A History of Commerce*, part III, chaps. XV, XIX–XXVI.
Ehrenberg, Richard: *Das Zeitalter der Fugger.* (2 vols.)
Fay, S. B.: "The Roman Law and the German Peasant," in *American Historical Review*, 1911, vol. XVI, pp. 234–54.
*Haring, C. H.: *Trade and Navigation between Spain and the Indies in the Time of the Hapsburgs.*
Hauser, Henri: "Les origines du capitalisme moderne en France," in *Revue d'Économie Politique*, 1902.
Jacobs, J.: *The Story of Geographic Discovery.*
*Jayne, K. G.: *Vasco da Gama and his Successors.*
Keller, A. G.: *Colonization.*
*Klein, Julius: *The Mesta.*
Lingelbach, W. E.: *The Merchant Adventurers of England*, pp. xvii–xli.
Lybyer, A. H.: "The Ottoman Turks and the Routes of Oriental Trade," in *English Historical Review*, vol. XXX (1915), pp. 577–88.
Merriman, R. B.: *The Rise of the Spanish Empire in the Old World and the New*, vols. I, II.
*Muir, R.: *The Expansion of Europe*, chaps. I–III.
Scott, W. R.: *The Constitution and Finance of English, Scottish and Irish Joint Stock Companies to 1720.* (3 vols.)
*Sée, Henri: *Les Origines du Capitalisme Moderne*, chaps. II–IV.
Seignobos, C.: *History of Medieval and Modern Civilization to the End of the Seventeenth Century*, chap. XVII.
*Shepherd, W. R.: *Latin America*, part I.
Sombart, W.: *Der moderne Kapitalismus.* 4th ed., 4 vols., 1922.
Strieder, Jacob: *Zur Genesis des modernen Kapitalismus.*
Tawney, R. H.: *Religion and the Rise of Capitalism.*
Thacher, J. B.: *Christopher Columbus.*
Thwaites, R. G.: *France in America.*
*Weber, Max: *General Economic History* (English translation by F. H. Knight), part IV. Weber's famous study on *Die protestantische Ethik und der Geist des Kapitalismus* has been reprinted (1920) in his *Gesammelte Aufsaetze zur Religionssoziologie.*
Zimmermann, A.: *Die Europäischen Kolonien*, 5 vols.

CHAPTER II

THE "COMMERCIAL REVOLUTION"

GENERAL NATURE OF THE CHANGES

If it is ever permissible to use the word "revolution" to designate a series of changes requiring decades to complete, this is perhaps one of the cases. We need to be fairly definite, however, as to what was overturned, and also as to what appeared in its place. An attempt was made in the last chapter to show that the seeds of modern capitalism were already springing up, here and there, by 1500. In fact, if we look at particular businesses, or even towns, in Italy and the Low Countries long before that time, their appearance is seen to be quite modern in many respects. Modern capitalism long resembled medieval as regards the domination of industry by commerce. When real industrial capitalism had reached such a stage of development that it could turn the tables and put trade in a dependent position, the commercial revolution was over. This did not occur until the eighteenth century.

The object of a definition, if we take the word literally and exactly, is merely to fix bounds. In trying to sketch a movement in time and space, it is almost infinitely preferable to deal with the positive forces which produce change and continue to appear, rather than merely to record the disappearance of this or that factor which once seemed important — or perhaps actually was so. Thus we can postpone fixing the forward boundary of the "Commercial Revolution" for the moment, merely noting that another step in the economic development of western society, to which the name "Industrial Revolution" seems to have become thoroughly fixed, overshadowed the more strictly commercial phase.

How we date the commercial revolution is of no great consequence. Dating it at all is merely a matter of con-

venience. Even if we make the period very long — say roughly from 1500 to 1750 — there will still be students of the origins of modern capitalism to remind us that many of the phenomena go back at least to the crusades. Others will complain that a long time elapsed after 1750 before machine industry and the organization of business which went with it really predominated. Still others — and the size of this group is increasing — will point out that it was the organization which led to the machines rather than the converse, and that some of the most important factors were at work long before 1750. All of these people are right, and there is no real quarrel between them.

It would be misleading to state that the changes in commercial and financial organization were either the cause or the effect, in any mechanical sense, of the expansion of Europe. The two went hand in hand. They were contemporaneous aspects of the same course of economic evolution. If we separate them somewhat arbitrarily, it is merely for simplicity and convenience of treatment. Only if this fact is borne in mind can the aim be achieved without distortion or misunderstanding. In dealing with the so-called "commercial revolution," the main emphasis must be placed upon changes in business organization within the skeleton of historical events roughly sketched in the last chapter.

Great improvements in navigation and shipbuilding continued to take place. A series of inventions in the field of nautical instruments appeared, from the earlier compass and astrolabe to the development of the mariner's log in the seventeenth century and of the chronometer in the eighteenth. The provision of quadrant and sextant, telescopes, and other accessories enabled navigators to find their way at sea far more safely and effectively. Maps, charts, and tables were constantly improved, lighthouses built, harbors cleared of natural obstacles and pilot services inaugurated. The rise of national governments marked the end of medieval strand laws, which had practically conferred upon localities the right to pillage stranded vessels. Along with these improve-

ments went the development of better and more seaworthy ships. At first the tendency was to concentrate upon increased size. The galleon and carrack appeared — vessels of from two to five decks, well armed to beat off privateers and pirates. Ships of these types proving unwieldy, the Dutch and British specialized in craft somewhat smaller but far swifter, more seaworthy, and more reliable. North European practices had long been different, due partly to peculiar conditions, including the weather, and the newer builders were also less bound by tradition than the old. Venice was still a great naval power, and the Turkish Empire rapidly became one. Spain could not have ignored Mediterranean conditions if she had wished. All these maritime developments were significant in respect of the changes of business organization which accompanied them. The shift from Mediterranean commercial supremacy to that of the Atlantic seaboard towns and states was closely related to the superior cheapness of the single, direct haul by sea.

From this vantage-point we can see the outstanding features of the commercial revolution. The volume of European trade increased rapidly, changing its nature, as is always the case. The widened geographical scope of this commerce was a vital factor in the changes. At first, Europeans naturally sought the goods already in demand. Cheaper ways of transporting them increased the amounts moved and lowered the prices relative to other goods. New wants appeared. Articles which had been consumed exclusively by the rich began to reach the lower social strata. New methods of payment had to be developed to cover the greater bulk of importations from the East. Here the new supply of precious metals from America played an important rôle. As in the Middle Ages, when the crusades had stimulated the demand for Oriental products, many of the goods were imitated in Europe, giving rise to new industries. Wares were also manufactured to trade for those demanded both from the Orient and from the New World. As sea trans-

portation became more efficient and cheaper, goods of less value for weight could be moved over the long distances, revolutionizing the character of the trade in both directions. We read a great deal about the effects of Europeans and European products in developing civilization in the New World. The Oriental world was of course much more populous, better organized, and more resistant to Occidental ways, but profound, though more subtle, changes took place there also.

The dislocation of prices in Europe, which was particularly apparent in the sixteenth century, was due only in part to the increased supply of precious metal from America. Especially during the second half of this century did the rapid rise attract attention. There are no complete and convincing indexes, but most of the estimates vary from 100 to 200 per cent, with a rough consensus of opinion, if it is permissible to call an average of such variegated results by that name, somewhat below 150 per cent. It is a real dislocation, not a uniform rise, some goods changing in price out of all proportion to others. The increase of banking and credit facilities, the growth of stock and produce exchanges and the improvement of transportation facilities were all factors in the shift. Europe was gradually approaching a real price economy. Speculation and monopolies got a good deal of the blame for the increase — in the case of the first, it is safe to say much more than its just due.

Jean Bodin was perhaps the keenest contemporary analyst of these phenomena.[1] Carefully read, his works give rise to only one major criticism in the mind of the modern economist. The analysis of the value of one money in terms of another is extremely shrewd. Bodin was inclined, however, to lay stress too exclusively upon the quantity of precious metal as a "cause" of prices and the accompanying phenomena. The expansion of credit and other increases in the efficiency of the

[1] Especially his *Discours sur le rehaussement et la diminution des monnaies*, 1568. The destructive religious wars made France to some degree a special case.

financial and commercial system may easily make a given quantity of metal serve for more transactions, with the same general effect on prices as though the actual amount in circulation had been increased.

Other striking features of the commercial revolution which should be mentioned before proceeding to details were mercantilism, the stimulation of manufacturing, and the transformation of social classes. The last of these is hard enough to analyze at any time. The first had its own peculiar meaning in its day and under the prevailing conditions which is often missed by later writers because they do not look carefully enough at the historical background. All were to contribute to a new age of industrialism which, it is safe to say, was not foreseen by those whose labors did most to usher it in. As Bishop Bossuet aptly put it: "Men do otherwise than they intend!"

What the commercial revolution overturned — or rather finished overturning — was the medieval system of society, with its hierarchy of gilds, its more or less isolated manors and villages, its town units in commerce, its notions of just price and condemnation of interest and profits, and its comparatively meager trade along generally north-and-south lines, financially dominated from the Mediterranean northward. Perhaps most important of all was the overthrow of the stereotyped social order, and the recognition that the creative power of a myriad of personal ambitions is susceptible of some control. It is dangerous, like all great forces, but it was always so to the lower classes. Modern European society has gradually released it, dubbed it personal initiative in its chastened and approved form, and attempted regulation.

THE DEMAND FOR NEW GOODS

Hitherto, the trade of Europe with the rest of the world had been limited rather strictly to the products of the Orient, chiefly spices, silks, tapestries, precious stones, perfumed woods, and commodities of this sort. Most of them, with the

notable exception of spices, were articles of luxury rather than those of common consumption. With the opening-up of new areas, particularly in the New World and the East Indies, the supply was greatly enlarged and a whole new range of commodities added. The European demand rapidly increased for such things as tea, coffee, cocoa, and other non-alcoholic beverages, wine and rum, sugar, and various types of vegetable foodstuffs. Among these were potatoes, lima beans, yams, and tapioca. Tropical fruits — for example, lemons, limes, oranges, bananas, and pineapples — arrived in ever-increasing quantities. Among the other goods demanded were carpets, rugs, wall paper, Eastern furniture, china, new forms of Oriental dress and adornment, ostrich feathers, furs from the colder regions, exotic drugs and medicines. Tobacco was one of the largest single imports from the New World for a considerable period of time.

For early modern times there are no trade statistics broad enough in scope and compiled with sufficient care and understanding to be worth quoting. We have to visualize the extent of economic progress chiefly in other ways. During the first two modern centuries, Europe's habits of consumption were vastly changed by the influx of new goods. Upper-class life was already profoundly affected as early as 1600, but the amount of innovation varied greatly from one locality to another. The new states had not yet achieved highly organized or unified economic systems, and internal lines of communication were still poor for the most part. By 1700 the middle classes, particularly in England, Holland, Spain, Portugal, and France, had generally changed their mode and standards of consumption — the laborious masses of the people much less. It was not until the eighteenth century that the effects of the commercial revolution penetrated to the very foundations of European society, helping to bring on the so-called "Industrial Revolution," which altered the conditions of human life more than any other period of similar length in history.

In the seventeenth century, England had a large fishing

trade with New England and the West Indies. With the southern colonies she had a highly developed trade in tobacco and rice, and had laid the foundations for a flourishing commerce in naval stores. She did a lucrative fur business with the North Atlantic colonies and Canada, as well as importing from this area iron, lumber, codfish, and oil. With the West Indies she had an immense trade in sugar, molasses, rum, dyes, spices, cotton, tropical woods, and tobacco. She divided with the Dutch a slave trade between the western coast of Africa and the American colonies. West Africa also furnished gold, gum arabic, ebony, rare woods, ostrich feathers, and ivory. From the Far East and the East Indies came an impressive group of commodities, enumerated as follows by a contemporary historian: [1]

> Books, canes, drugs, gums, oils, indigo in large quantities; cochineal, China-ink, galls, turmeric, seed-lack, shell-lack, stick-lack, ivory, fans, cane-mats, cinnamon, cloves, mace, nutmeg, pepper, cayenne pepper, ginger, sago, sugar, tea, rice, coffee, preserved fruits, mother-of-pearl shell, and spoons made of it, saltpetre, arrack, cotton, cotton yarn, raw silk of Bengal and China, calicoes and muslins, cassia, ebony, sandal, satin and sapan woods, porcelains, japanned cabinets, ornamental furniture, tiger skins and precious stones.

Set off against these imports from oversea were the leading English exports of wheat, woolen and cotton cloth, hardware, gunpowder, and various trinkets which were used in the trade with backward peoples.

The situation at the opening of the eighteenth century is very well illustrated by coffee, a commodity very rarely used in Europe fifty years earlier. Consumption doubled between 1710 and 1720, and again in the following decade; but in the next five years, 1730–35, it almost trebled. This commodity was getting to the breakfast tables of the middle classes in large quantities. Coffee is only a suggestive illustration of the general situation. Cloth was to prove far more important because importation was destined to give way to man-

[1] Botsford, J. B., *English Society in the Eighteenth Century*, pp. 34–35.

ufacture. Cloth-making was a big factor in bringing iron and coal to the fore, and these have revolutionized the modern world.

In the course of European expansion overseas, the commerce of the Western World passed from the coasting type, mainly along inland seas, which had endured for some five thousand years, to the stage of oceanic or world-wide traffic. Only a relatively small fraction of the habitable parts of the world was reached by the earlier explorers, but they enormously extended the range of European geographic knowledge and contacts and laid the foundations for the colonization and discoveries of the nineteenth century. The whole period of four centuries has been relatively brief, but it has opened up to western Europe practically all the land areas of the planet. The speed and efficiency of our world-wide system of transportation and intercommunication is one of the most characteristic material aspects of present-day civilization.

Tastes and customs underwent great changes with the introduction of vast quantities of new commodities. The psychological factor of demand is as important as it is subtle in economic activity. The kinds and quantities of goods which people of various social classes feel themselves entitled to comes pretty close to being a fundamental element in shaping the material structure, as well as the mental outlook, of a society. Before the end of the commercial revolution, middle-class houses were not considered comfortable without glass windows, wooden or tiled roofs, carpets and rugs, and upholstered furniture. Wall paper was introduced from China, and lacquered ware from Japan. The hammock came from the West Indies. More comfortable and serviceable types of clothing came into general use with the cheapening of both cotton and linen cloth. Cotton in particular became much more plentiful. Underclothing and bedclothing made of these materials, now considered necessaries by all classes, had never been generally used in Europe before the commercial revolution. Silk culture, introduced from the East

during the Middle Ages, was greatly developed in northern Italy and southern France.

Parasols and folding fans appeared, in imitation of the Orient. At first, the parasol was mainly an object of ostentation, being associated with royalty in the lands of its origin. It ceased to be a mere sun-shade in the eighteenth century, when the collapsible umbrella for protection against rain was developed. Luxury goods such as perfumes, furs, and ostrich feathers need only be mentioned. To add to the appearance of dwellings, already revolutionized as to furnishings, considerable attention was paid to gardens, in which were planted various new trees, shrubs and flowers, brought from distant lands. Among these were the Virginia creeper, aster, dahlia, nasturtium, sunflower, magnolia tree, century plant, pepper plant, coral tree, and locust tree. The breeding of these in Europe, as well as the observation of them in their native habitats, were vital factors in bringing about a new attitude toward biological science.

The range of foods consumed in Europe was greatly increased. Spices were demanded in larger quantities, eventually reaching even the lower classes. The potato was brought to Europe in the sixteenth century. It was eaten by some of the poorer people at the end of the seventeenth, but its value as a staple article of human diet was realized only in the time of Napoleon. Sugar had been a medicine and a rare luxury until modern times. Cane cultivation became an enormous industry in the West Indies in the eighteenth century, the demand for sugar being stimulated by the introduction of tea, coffee, and cocoa. Indian corn or maize, like the potato, took hold very slowly in Europe as human food, and has never been as fully appreciated there as in America. The turkey is an American fowl, given its name supposedly because of its outlandish appearance.

The rôle of coffee-houses or cafés, and of the use of tobacco, in undermining the home as an airtight compartment in society, in political intrigue, as gatherings for business and the promotion of literature, is familiar enough not to require dis-

cussion in detail. Rum, lemon drinks, and tea may be mentioned in the same connection. Of the medicines, quinine and opium should certainly head the list.

Europe's structure of social classes was to be pretty thoroughly transformed during this period of some two and a half centuries. In this process, the inevitable results of the mere fact that an expansion took place should be remembered while considering more subtle explanations. The new trade was accompanied by great improvements in the economic organization at home, and both worked together to permit of the support of a much larger population in Europe with higher rather than lower standards of living. Many people also emigrated, particularly to the New World. Some were kidnapped, criminals and indentured servants were sent to work out their freedom in one way or another, and more still left voluntarily. This steady drain of the European population has continued. No arrangement of social classes can be really stereotyped where the restless can get out and strike a different level if they succeed and choose to return. Many did come back rich, especially from such regions as the East and West Indies, where a white European is not likely to spend his whole life willingly. The increase in population, which is often too strictly attributed to the Industrial Revolution, got a good start in this earlier period.

More striking, if not actually more significant, for European history than emigration was the increase in numbers, wealth, and power of the middle class or bourgeoisie. Besides those engaged in trade, finance, and industry, the professional group in the middle class grew in numbers and influence. In the new states the lawyer class was relied upon by monarchs as one of the chief bulwarks of absolute monarchy — not so much against popular tendencies in the earlier period as against the traditional privileged classes of an older order. The rise of the bourgeoisie must be viewed against the general background of European expansion, but it is best explained in terms of economic changes in Europe herself. It is a product of the growth of modern capitalism. The vast im-

provement of the home market was an important factor in the eventual shift from commercial to industrial capitalism, and was closely associated with the displacement of social classes.

PRECIOUS METALS AND PRICES

At the opening of modern times, northwestern Europe had actively resented the financial domination by bankers from the Mediterranean regions for more than two hundred years. As in areas similarly placed in any age, including our own, it was commonly believed that more money was needed. Whether the mere existence of more precious metal in Europe, or in this part of it, would have made any difference worth mentioning is a hard question, if not an impossible one, to answer. Generally speaking, the quantity of money is sufficient to handle the transactions, and raises no great problems as long as it remains fairly stable. A strong tendency for the supply to move in one direction may of course create a scarcity or a surfeit locally.

There can be no doubt, on the other hand, of the advantage of *producing* a universally acceptable commodity of gold or silver — that is, of increasing the supply which may be traded for other goods. It is quite possible that northern Europe tended to be short of money metal during the Middle Ages, because of the importation of Southern and Oriental goods into a relatively primitive economic society, the movement of Papal taxes, and the exactions of Italian financiers. The "shortage," if any, was thus merely a manifestation of economic dependency and crudity. Medieval Europe as a whole may have suffered more or less from the effects of payments to the Orient. The great distances, the numerous stages in the journey, and the high cost of transport emphasized the need of moving only the most valuable commodities for their weight.

Toward the end of the Middle Ages, a good deal of silver and gold was mined in central Europe. This new source of wealth, and particularly of fluid wealth, was one of the factors in the growing ascendancy of German finance rela-

tive to Italian. The vast number of laws and regulations against the export of coin could hardly have arisen except to counteract a real and quite general tendency. People are sometimes tempted to forget that medieval business men and statesmen were not operating in a modern environment and to attribute to them a simplicity or folly which was not actually theirs. Northern Europe could break away from southern domination only by accumulating capital in forms suitable for investment. To do this in the face of an established flow of trade and investment required some ingenuity and no little arbitrary interference.

Europeans had been making increasingly successful efforts to duplicate or find substitutes for Oriental imports, and to develop products of their own to exchange in this trade, as well as to mine and mint money metal. At the opening of the sixteenth century, the money situation was already somewhat ameliorated. Europe was producing annually some $500,000 to $750,000 in precious metals, and a similar amount was being drawn from the West Coast of Africa.[1] If we accept the usual estimates of $170,000,000 to $200,000,000 as the amount of coinage in circulation in Europe in 1492 or 1500, $250,000,000 is not an improbable figure for 1520. Accumulation went on constantly in spite of the drain eastward, and both European and African production of precious metals was stimulated in every possible way. This acceleration in output continued to about 1600, after which time the dearth was less acute and the flood of gold and silver from America had so raised prices and wages as to render many Old World mines unprofitable. In addition to the gold and silver in circulation as coinage about 1520, there was also a considerable amount in the form of plate and other works of art, and much was hoarded in the form of bars, coins, etc. Nothing much better than a blind guess at the total would be possible.

[1] These estimates were taken from a number of European sources, which roughly agree. According to Soetbeer's estimates, quoted below, they would be much too low. The question is a highly technical one, and the exact figures are not of particular importance for our purpose here.

Shortly after 1520, the Spaniards got large lump sums by the pillage of Aztec and Inca treasures, and also developed a steady supply of precious metals by working the mines of Peru, Bolivia, and Mexico. The annual output of the world was roughly tripled between 1500 and 1550, and by the latter date the American mines were supplying more than all the others combined. A tripling of the yearly output does not mean, of course, that the total European supply was increased in proportion. Gold and silver are very durable and the stock of 1500 represented the accumulations of thousands of years.

Production at such a rate was certain, however, to tell in time. Over a billion dollars' worth of new money metal was mined between 1520 and 1600, and it is likely that a much larger percentage of this went into circulation as coins than was true of the stock in existence at the earlier date. We can only speculate as to the total effect of the new monetary situation in putting the old plate and hoards into circulation, and there are no reliable figures as to the amount of silver which flowed out of Europe to the Orient. The usual estimate is probably conservative enough: that the coinage of Europe increased about twelve-fold during the sixteenth century. A quantitative impression of the increase in precious metals from the discovery of America to the beginning of the Industrial Revolution about 1760 may be gained from the table on page 310.[1]

Several things about this table strike the eye immediately. First, it represents only the increases, not the total supply, by periods. Second, the production of silver at first greatly outstripped that of gold. Finally, the accumulation for the whole course of the commercial revolution adds up to a really stupendous figure. Even if credit facilities had not been multiplied, the effect on prices — and of these upon business organization and the distribution of wealth — would have taxed the imagination. One should note that the figures are for production, not circulation.

[1] Condensed from Soetbeer's estimates, as printed in the annual reports of the Director of the Mint.

World Production of Gold and Silver, 1493–1760

(Forty-year periods, with the exception of the first)

Period	Total Gold Production (Value in dollars)	Total Silver Production (Value in dollars)
1493–1520	$107,931,000	$54,703,000
1521–1560	204,697,000	297,226,000
1561–1600	189,012,000	597,244,000
1601–1640	223,572,000	678,800,000
1641–1680	239,655,000	584,691,000
1681–1720	313,491,000	579,869,000
1721–1760	580,727,000	801,712,000
Totals	$1,859,085,000	$3,594,245,000

The average annual accumulation about 1500 was around $5,000,000. A half-century later it was three times as great. For the last twenty years of this (sixteenth) century, the average was over $22,500,000. It fell off slightly during the next fifty years, and then rose again in the period to 1760, being a trifle over $38,500,000 for the final twenty years. During this part of the eighteenth century, just before the Industrial Revolution, the increase of gold relative to silver was as striking as the converse had been in the earlier part of the commercial revolution. For instance, the value of gold produced in the period 1561–1600 had been only about 31½ per cent of that of the silver, whereas in the forty years up to 1760 it was roughly 72½ per cent. This changing ratio between the two metals produced its own series of financial disturbances, and gradually forced the modern solution: monometalism, or the single gold standard. It may be noted here that after 1760 the situation changed again, silver production gaining on that of gold for a long period. If we give the Industrial Revolution its older conventional dates, 1750 to 1830 or 1770 to 1830, it can be seen at a glance that it was not accompanied by any such rise in the volume of money metal as characterized the period of 1500 to 1750. The average annual output from 1750 to 1830 was only about $40,000,000, a slight increase over the previous forty years. In fact, the yearly average for the last half of the period was less than for the first, and about equal to that of the forty years just before the Industrial Revolution.

Without attempting to make this astounding increase in the supply of money metal an isolated "cause" of the great economic changes which went with the expansion of Europe, we can still note the obvious fact that it is a convenient vantage-point for viewing a good many of them. Gold and silver being commodities, they follow the general rule that an increase in supply is accompanied by a decrease in exchange value against other goods. This decrease — or rise in prices, if viewed from the other angle— is part of a very complicated process, and is not rigidly proportional. We must not be surprised to find that the rise in the quantity of money metal is not exactly parallel or relative to that of prices and wages, from year to year or even from decade to decade. Nearly all economic tendencies require a certain amount of time to express themselves, and they are usually counteracted, retarded, or reënforced by other factors, among which the deliberate purposes of men are often not the least potent.

Such was the situation in the sixteenth century. The mounting volume of precious metals which might be converted into specie tended to reduce the purchasing power of a given amount of gold or silver. Governments — for example that of Elizabeth — legislated on wages, in a not altogether unsuccessful attempt to hold them arbitrarily low. Both private trading companies and states which were interested in imports from overseas made ingenious attempts to keep the prices high. Foreign trade was regulated in a way calculated to attract and keep precious metals.

The mercantilist philosophy which lay back of this coincides with the modern arguments for protective tariffs at many points. Before condemning such regulation as a whole, it is well to remember that gold and silver were practically the only money, that few nations had enough to secure the full advantages of a money economy, and that the total amount of these metals was changing rather rapidly. Some credit facilities existed even at that time, but they are hardly comparable to those of to-day. All the western European

countries had a large residuum of manorial and other non-monetary economic life, and hence could absorb vast amounts of precious metals simply in changing over to a money economy, without producing any proportionate change in prices or wages. One aspect of this situation was that an increase in the number of cash purchases and sales which occurred at the same time as the growth in the money supply must have tended in part to cancel the effects of the latter upon prices.

While the data preserved for us are fragmentary, the general trend of prices from the thirteenth century to the end of the sixteenth is fairly clear. The thirteenth-century author of *Fleta* gives the average price of wheat in England at six pence or about twelve cents per bushel, a figure which checks up fairly well with those of J. E. T. Rogers in his *History of Agriculture and Prices*.[1] Between 1261 and 1400 the average price was 5*s*., $1\frac{3}{4}$*d*. per quarter of eight bushels, or nearly fifty per cent higher than the quotations given above. Leaving out certain periods of famine or exceptional crops, we find the price creeping up gradually until about 1380, when it fell off for two decades, but not nearly back to the thirteenth-century level. Of course, there were fairly violent temporary fluctuations at the time of the Black Death.

From a little over 5*s*. per quarter just before 1400, the price rose until about 1470, when it slumped for some twenty-five years. Rogers's quotations for 1500–01 are mostly between 6*s*. and 8*s*. The figures increase steadily up to 1550, when they range between 9*s*. 6*d*. and 16*s*. 1*d*., with many entries near the higher level. While his quotations for 1575–76 are extraordinarily varied — from 10*s*. 8*d*. to 29*s*. 4*d*. — a rough average can be struck around 15*s*. For 1583–84, the Ox-

[1] Georges d'Avenel's *Histoire économique de la propriété, des salaires, des denrées et des prix de l'an 1200 à l'an 1800*, in five volumes, performs a similar task in French. There are many briefer treatments of this price movement, some dealing more or less confidently with the slippery question of actual purchasing power; e.g., G. A. Steffen's *Studien zur Geschichte der Englischen Lohnarbeiter*.

ford average was 18*s.*, and the twelve-month period he chooses in 1591–92 was the last year in which the average price was below 20*s.* Most of the quotations for 1600–01 are between 30*s.* and 40*s.* This represents a good deal of a movement from the 7*s.* or thereabouts of a century earlier and the 4*s.* of the thirteenth century. Other things such as eggs and live stock tell the same general story. Schapiro [1] gives a brief summary of the increase in the prices of such goods as foods, clothing and spices in Germanic countries. For instance, beef rose 15 per cent between 1500 and 1525; clothing 50 per cent, wheat and oats over 100 per cent, and many spices still more.

The extent of the change so early in this century is ample evidence that other factors besides American gold and silver were at work. There was certainly something in the charge of contemporary writers, including Luther, that vast monopolies existed, and that society in general had not yet learned to protect itself against the newer business methods which had long been pushing up through the ruins of medievalism. Moreover, America was far from being the only factor in the increased production of precious metals early in the sixteenth century.

This great increase in prices, coupled as it was with the accumulation of capital, the growth of stock and produce exchanges, and the weakening of older economic restrictions, stimulated trade and speculation. It increased the profits of the industrial and merchant classes. Had it not been for the effects of the vestiges of gild restrictions on the wages of journeymen, the wage-earning population would undoubtedly have benefited much more than it did. The landed nobility who received their rent payments on long-term leases in kind were much less adversely affected than those who had reduced the dues to cash, since the prices of farm produce rose, while the purchasing power of a given amount of money fell off. The squires who owned and worked their own farms generally shared in the prosperity because of the

[1] *Social Reform and the Reformation*, chap. I.

rise in the prices of the things they had to sell. Long-term lease-holders and peasants whose dues had been commuted to cash tended to profit at the expense of their landlords. In many instances, governments took cognizance of the price changes and attempted regulation, but, as in the old Statutes of Labourers, such opposition to general economic tendencies was usually unsuccessful.

THE RISE OF MERCANTILISM

Like nearly everything else in the early modern world, the state policies known collectively as "mercantilism" had their origins in the Middle Ages. If one factor is to be chosen as more central and essential than the others, it must be the growth of the national state at the expense of the authority of towns, nobles, and Church. Of these three, it is the first especially which holds our attention. The central Government of the State did not merely supersede the maze of practically autonomous towns, with their conflicting regulations and ambitions. It had to incorporate them into itself, getting rid of the absolutely indigestible elements in their organization and doing the best it could to harmonize the others with its own purposes — really with its own existence at the outset. If we remember this, we can afford to ignore a good deal of the criticism which has been leveled at the mercantile system.

Regulated monopoly had permeated the medieval system from center to circumference. The central Governments weakened it considerably in the course of establishing their supremacy over the towns and gilds; more than they intended to, in fact. New forces were at work, such as the cheapening of long hauls and the growth of money economy. Both led to territorial specialization, and hence to an interdependence of widely separated regions which was destructive of the older and narrower system of monopolies. The first concern of a state is to maintain its authority over its territories, which calls for revenues to support its forces and administrative personnel. If the fiscal autonomy of the towns had

not already outlived its usefulness, undermined by the development of commerce, it is hard to believe that the central Governments would have triumphed.

The medieval practice of collecting duties on goods carried from one town or district to another was not summarily abolished by the central Governments. Towns still had to have revenues, and it was quite logical for the states to preserve such sources as they could, collecting a share whenever possible. Duties on goods coming from abroad became the province of the central Government, but port towns often collected special revenues or fees on the same articles. Municipal taxes of this kind are not unknown even in the contemporary world. For example, they have given rise to loud complaints on the part of shippers to the West India port of Santo Domingo in the twentieth century. The fact has been noted above that heavy taxes on both imports and exports were levied at Cadiz, on goods going to and coming from the colonies, foreign products paying more than Spanish. Revenue was the main object of the duties at first, but the protection of commerce and industry from foreign competition attracted the attention of the central Governments more and more as they took the place of the towns, which had pursued the same end with even greater zeal during the Middle Ages.

Exports as well as imports were taxed, England being less inclined to the practice, and abandoning it earlier, than the Continental countries. There is a general feeling in the United States, doubtless arising from our uniform policy, that export taxes are in some way abnormal. Yet such a tax on coffee is one of the chief sources of revenue in Haiti, under the American protectorate. Whatever the economic objections to them, such duties are levied by Governments when they need the income. England did not have the system of interior customs lines which until 1789 complicated French taxation. She found out earlier than France that import duties are more practical than those on exports, for purposes both of revenue and of protection to industry.

The English Government preferred regulation to taxation as a means of preventing the export of needed raw materials.

Of all the various things which the mercantilist policies tried to accomplish, the one which has attracted most attention was the accumulation and conservation of precious metals. Spain's amazing rise to wealth and power in the sixteenth century was believed to be due chiefly to the silver and gold she drew from the New World. If this is not the correct explanation, we might still ask what is. That she should attempt to monopolize the supply in her own colonies was accepted as a matter of course. The North European interlopers who pillaged her treasure ships or traded surreptitiously with her colonists wanted the same thing. Whatever theoretical objection may be raised to turning any large share of a nation's energies towards accumulating precious metal as a form of wealth, the fact remains that it would pay debts to Lombards or Fuggers, buy goods, and serve as a basis for securities and credit in the rise of capitalism.

None of the great commercial powers were well consolidated when the expansion of Europe began. Vestiges of medieval local autonomy were everywhere. For instance, it is almost incredible to the present-day student that a central Government as loosely organized as that of the Netherlands could survive at all. Financial supervision was one of the weapons for wearing down these local privileges, as well as the one means of guaranteeing an income to the State. In the period of incomplete national consolidation and only partial transition to money economy, States lived more to themselves than they did later. They often carried on hostilities against each other, especially at sea, even in time of "peace." Violently fluctuating currencies and prices and the suspension of the free movement of international payments in specie do not seem so abnormal to-day as they did to the student before 1914.

Another thing which attracts our attention is that the period of mercantilism coincided almost exactly with that of

the rapid increase of the supply of precious metal. If Europe had only $200,000,000 circulating in the form of coins — or even twice that amount — at the beginning of the commercial revolution, the additions of a single decade in the sixteenth century were a respectable fraction of the whole. Production had reached a sort of plateau by 1750, and the annual accretion of some $40,000,000 was a very small percentage of the total accumulation of some five billions since 1493 — without taking into account the original supply. The rise of capitalism was even more rapid than the growth of the stock of precious metal would indicate, for this was accompanied by a growth of credit facilities, especially in the latter part of the period. As manufacturing developed, the European market became more important, and as the *rate* of increase in the *total supply* of money metal died down, the purchasing power of the existing stock became more stable. No longer was it a foregone conclusion that the nation which did not add to its coinage at about the rate of the general increase would see its total existing supply decrease in purchasing power. The mercantile system died a natural death when the conditions under which it had arisen and flourished passed away. Even this hasty sketch of the economic environment of mercantilism may serve to make the equally brief definition of principles to which space limitations confine us seem less crude and unreal.

Mercantilism reached its peak as a recognized system in the seventeenth century, and declined from the eighteenth into the nineteenth. National states made it their aim to attract and keep as much precious metal as possible, both in their treasuries and in the hands of private citizens. The art of war was making great strides in efficiency and expensiveness, and any nation might have to practice it on a moment's notice. Funds in available form for such emergencies were highly necessary. Certain manufactures in connection with firearms, shipping, and clothing had to be maintained within the country which aspired to be a great power, or even to protect its independence. Sea power was

vital to make up deficiencies, as well as to carry the destructive operations abroad, or keep them there. This was one of the reasons for the violent nationalism of commerce — it was the maritime nation which could exert naval strength in time of war. Not only was this peace-time basis necessary to train sailors and keep up ports, but the specialized warship itself only gradually replaced the converted merchantman. Even after the change, privateering was a scourge to commerce.

Economic power was as much coveted as military strength. In sweeping away a mass of local restrictions, the national states had to feel their way to a new system of regulations which would guarantee revenue and economic stability, as well as military safety. As early as the reign of Elizabeth, protection was a recognized aim in compiling tariff schedules. The British East India Company was hardly launched when denunciations of it began to appear, based partially on the charge that it sent more bullion to the Indies to pay for its cargoes than it brought back. Thomas Mun answered this indictment in 1621 with a discussion of the balance of trade as a whole, arguing that the single case of the East India trade could not properly be considered separately. This defense of the Company was elaborated in a "petition and remonstrance" to Parliament in 1628, and especially in his famous pamphlet of 1664, *England's Treasure by Forraign Trade*. Balance of trade, he argued, is a complicated economic fact, made up of a number of debit and credit items. Only one of these is the payment of bullion. Parts of the sums due for excess of imports are canceled by charges for shipping services, and some of the bullion actually paid is recovered later, perhaps several fold, upon the resale of the imports concerned. The sums due for imported goods are affected by every payment, direct or roundabout, between the countries concerned, including remittances of all kinds, the expenses of travelers and ambassadors, and even war expenses and indemnities.

The English Navigation Acts of 1651 and following years

preceded the more famous protective tariffs instituted in France by Colbert, Louis XIV's Treasurer, these latter beginning only in 1664. Symptoms of distress in the English woolen industry appeared about the time of the Stuart Restoration (1660). The trouble was at first ascribed to French competition — France being unpopular anyhow because of religious and national issues. A pamphlet setting forth this view brought one Samuel Fortrey a momentary popularity. It soon became obvious, however, that the main difficulty lay in the competition of East Indian and Persian stuffs with English woolens. There followed a battle between the vested interests, the woolen industry clamoring for the exclusion of Eastern cloths and the East India Company working by pamphlet, Parliament, and more subterranean political channels to keep its imports on the approved list. Later, the growing cotton manufacturing interests formed a third party in the discord.

A compromise between the warring English economic groups was effected in 1702, in the Methuen Treaty with Portugal. Portugal was an important buyer of woolens, and her colonies made her an even more valuable customer. Moreover, the double blow at France was popular, the bitter contest over the succession to the Spanish throne having just broken out. France had been a bidder for the Portuguese woolen market, and the treaty also hit her wine trade by admitting port wines into England at a third less duty. This gave rise to much smuggling, as the English preferred French wines to the heavier Portuguese product. The lower classes could afford neither, but managed to get fashionably drunk — "as drunk as a lord," the saying went — by the use of rum and Holland gin. Another aim of the Methuen Treaty was to tap the Brazilian gold supply.

A Calico Act of 1721 prohibited the *use* of painted, flowered, or dyed calicoes, but not of white goods. Cotton manufacturers prospered so greatly that by 1735 this industrial group was able to force through the Manchester Act, exempting it from the terms of the 1721 Calico Act. This brings us

to the period of the industrial inventions, which put the English cotton industry in a few decades beyond the need of government protection. Thus mercantilism was not at all the simple formula about treasure and the balance of trade which it is sometimes made to appear in summary accounts, but an extremely complicated policy for dealing practically with both foreign competition and rival economic groups at home.

England, France, and the Netherlands all had ample reason for trying to attract some of the new flow of precious metal from Spain and Portugal, having no considerable mines of their own. Spain's economic weakness was so great that the competition was mainly among the three "have nots" of northern Europe. Spanish mercantilism was very different partly because of a surfeit of the very thing the others lacked. Trying to attract the surplus, they built up their manufactures and commerce at the expense of Spain's, while her incentives in the same direction wanted a certain immediacy and vitality.

The English Navigation Act of 1651 was aimed mainly at the Dutch. It provided that goods from Asia, Africa, or America must arrive in England by English ships or those with mainly English crews, and that goods from Europe must be brought either by English vessels or those of the country of origin. A new act of 1660 listed certain colonial products, including sugar, ginger, tobacco, cotton, indigo, and dyewoods, which the English colonies could export only to each other or to the mother country. The list was extended in 1706 and 1722. In the meantime, an act of 1663 required all European goods for the English colonies to pass through England. This legislation affected France as well as the Netherlands.

Colbert was no less convinced than Mun that Spain's power rested upon the treasures of the Indies. "Manufactures," he wrote, "will produce returns in money, which is the single aim of commerce and the only means of increasing the greatness and power of the State." He established

the East India and West India Companies in 1664, and a Senegal Company in 1673. Great difficulty was encountered in raising the capital, and the results were mediocre. Louis XIV's long series of Continental wars, with their dissipation of capital and energy, was a factor in this, but the failure was apparent even before Colbert went out of office and the most destructive of the struggles began. Only in the West Indies (Saint-Domingue, Martinique, and Guadaloupe) were the results completely satisfactory. The French Guinea Company was given the slave trade with the Spanish colonies in 1701, but it was withdrawn and awarded to the English twelve years later in the Treaty of Utrecht, together with the privilege of sending out one cargo a year. French trade with the West Indies was repeatedly interrupted by the wars with Great Britain down to 1763, and much of it went to the thirteen British colonies on the mainland, serving later to embroil them with their mother country.

To discuss the decline of mercantilism in detail at this point would force the introduction of some historical factors out of their proper order. It must suffice for the moment to state that the decay was due to the development of capitalism, the expansion and intensification of trade, and the gradual transformation of the industries which fed foreign commerce. Europe got over her real or fancied dearth of money metal, both by increasing the supply and by evolving other aids to the accumulation and application of capital. In this situation, less of an actual "treasure chest" was needed to meet the possible emergency of a war. No longer were one or two nations able to throw into circulation in a decade a large fraction of the existing amount of specie. As North European countries became industrialized, they turned their attention to the more positive factor of finding markets for their manufactured wares. In a sense, the European market was rediscovered, and nations made treaties with each other to promote exchanges advantageous to both parties. Protective tariffs have continued, but they are better understood and more reasonable. The rise of popular

government has put the general consumer in a position where his feelings about prices have a decided effect upon legislation.

BANKING, CREDIT AND EXCHANGES

Interest rates at the beginning of the commercial revolution were still high and erratic, the question of proper security remained unsolved, and financial operations were greatly hampered by inherited traditions and practices. Many of the banks succumbed through the defalcation of princes too strong to be coerced. Others decayed with the families which controlled them, because the joint-stock company was not yet well enough worked out to bring in new blood and drop outlived policies.

The Peruzzis of the fourteenth century had a capital of some $800,000, the Medicis of the fifteenth perhaps $7,500,000. By 1500 the Fuggers of Augsburg, well north of the Alps, were the richest banking house in Europe. They had erected their business largely through the aid of Bohemian, Styrian, and Carinthian gold. Already, in 1511, before their section of Europe had become seriously involved in oversea ventures, they had a capital of 196,760 gulden, a sum which had increased to 2,021,202 gulden[1] by 1527. At this time, they were making about 55 per cent annually on their investments.

During the first century of European expansion, the Spaniards carried on their banking operations mainly with the aid of old established houses in the Low Countries, Italy, and Germany. The growth of commerce and the enormous increase in specie were accompanied by a much wider use of bills of exchange, and credit was extended on a vaster scale, leading in many cases to heavy loss and the disruption of old banking concerns. In its earliest forms, the stock company was not particularly well adapted to banking. Antwerp was the center of international exchange, its most

[1] Representing a purchasing power of some $20,000,000 in our money. This figure must be practically doubled for the peak of their prosperity, about 1546.

famous financiers being the *Marans* or converted Portuguese Jews. The founding of the bourse or stock exchange there in 1531 was an event of the first order in the history of European capitalism.

If we remember the extreme crudeness of the joint-stock company in the sixteenth century, we shall not make the mistake of reading any very strict resemblance to our stock exchanges into this Antwerp Bourse. "A continuous fair," it was called, and the characterization describes it pretty accurately. There were practically no stock shares on which to speculate. The betting — for many of the operations were practically that — was largely on the prices of actual capital goods, on exchange, and on insurance. Arbitrage, or dealing in the differences between prices or rates of exchange in different places, was a favorite form of speculation. This had been done in the medieval Italian towns, but never on any such scale as at Antwerp. Maritime insurance had also been practiced in Italy, and later in Portugal. It grew so enormously in Antwerp that in 1564 six hundred people were making what one writer calls a "fat living" out of it. There were no companies, but a number of people often insured the same vessel. Premiums became more or less standardized. Frauds were so common that an attempt was made in 1559 to regulate the business by law. Life insurance was also in use, limited chiefly to fixed periods, such as the duration of a journey by land or sea. This also led to frauds, and even to crimes.

Such an atmosphere was the breath of life to promoters and adventurers, as well as to captains of industry, finance, or commerce. Lotteries flourished. People could be found to bet on anything, including such matters as the sex of children yet to be born. Some transferable "securities" appeared to represent capital, and commodities were also sold by grades, without even the use of samples. Negotiable stock did not precede bourses, however — the evolution was rather the converse. It was the trading in these early bourses, of which there were a great many, which led to the

development of securities of the modern type, and these in turn made possible the establishment of stock exchanges of the kind familiar to us, in the seventeenth century. A new type of bank was made necessary by the enormous growth of commerce and credit, and also the growing traffic in bills of exchange, but the form these institutions were finally to assume waited upon government aid and the development of the joint-stock enterprise.

The early attempts to float stocks and bonds were not particularly happy. Most of the banks were of deposit only, and the laws rarely prevented the banker who was so inclined from using the funds for speculation. A famous case was that of Höchstetter, who tried to corner the mercury market and ruined his depositors. Cardinal de Tournon got the banks of Lyons to concentrate their deposits in a fund with which he hoped to regularize the public credit, promising 10 per cent interest, which did not materialize. Bonds were issued by the same city in 1554, to be sold in the various bourses and privately subscribed for. We are told that they were taken even by servants and foreigners. The enterprise turned out to be a veritable "bubble," a century and a half before the "South Sea" and "Mississippi" *débâcles*.

Interest was generally legalized in Europe in the sixteenth century. Philip II made 12 per cent legal in Spain. Henry VIII fixed the rate in England at 10 per cent, by an edict which was abrogated during the Catholic reaction under Mary, but restored in 1571, over the violent protests of the Anglican Church. There was money to be had on the Continent at 6 per cent, and even less, for safe ventures. Capital was getting fairly plentiful, in other words, at the end of the sixteenth century. One of the consistent aims of Colbert, and also of English governments of his time, was to keep interest rates as low as possible.

The rise of the Bank of Amsterdam, the first of the great modern banks, was sketched in the last chapter. Its enormous power and prestige were partially founded on the fact that it was really a public institution, founded by the City Council

and having its offices in the City Hall. The use of paper securities was much more general in Amsterdam than in Antwerp a half-century earlier. It was here, according to Professor Sombart, that credit first became really "impersonal," that economic life was "commercialized," and that the capitalistic spirit or mentality appeared. Still, the bourse at Amsterdam, like the earlier ones at Antwerp and elsewhere, was rather a permanent fair than a modern exchange. The first of these, organized around the central idea of dealing in shares of stock, appeared at London in 1698. The Bank of England had been founded four years earlier, to assure the credit of the reorganized Government under William and Mary, born of the bloodless revolution of 1688. By 1724 when the Paris Bourse, also a true stock exchange from its inception, was founded, that of Amsterdam had achieved the same general structure by evolution. It continued to be far more important than that of Paris down to the French Revolution.

The differentiation of stock exchanges, about 1700, from the older bourses, which had been largely produce exchanges, attracted public attention to the new possibilities for speculation. Public loans were the favorites down to the nineteenth century, when the canal and railway companies began to put their stock on the market. The trading companies generally preferred to sell their bonds through private channels.

England and Scotland together had 140 joint-stock companies at the end of the seventeenth century, with a total capital of £4,250,000. Nearly three fourths of this capital belonged to six of them: the East India, African, Hudson's Bay and New River Companies, the Bank of England and the Million Bank. The prices of some of these shares fluctuated enormously. Those of the East India Company fell from £200 in 1692 to £37 in 1697. During the same period, those of the African Company dropped from £52 to £13 and of the Hudson's Bay Company from £260 to £80. A number of stock-jobbers got prison sentences, with no visible effect

on the price movements. Another crisis occurred in 1708, following a period of speculation and inflation, and a large number of companies foundered. It was just after this that the most famous "bubble period" opened. The capital of the Bank of England, fixed originally at £1,200,000 and raised to £2,200,000 in 1697, was raised to £5,559,000 in 1710. We must always see these financial misadventures of the eighteenth century against their background of war, and especially of an amazing commercial expansion.

The South Sea Company was created in 1711, with a nominal capital of £9,000,000, lent to the Government at 8 per cent. Under the terms of the Treaty of Utrecht (1713), the English obtained a monopoly of the slave trade with the Spanish-American colonies, and also the right, which was grossly abused, to send one shipload of merchandise per year. These privileges were handed over to the South Sea Company. It added whale-fishing and other legitimate ventures to its activities, and finally offered to take over the national debt at a lower rate of interest. Shareholders exchanged their holdings for stock in the Company, and all seemed to be going well until the public got a sudden passion for the shares and bid them up to ten times their actual value, on the basis of the interest yield. This boom was accompanied by, or to be more exact, largely composed of, the flotation of a large number of bogus stock enterprises. People bought stock in companies for making perpetual-motion machines, for putting alchemy on a commercial basis, and so on. A famous one was "for an undertaking which shall in due time be revealed."

South Sea stock rose 36 per cent from January to May, 1720, reached 600 per cent in May, was over 1000 from June to August, and fell to 121 in December! In this last period, Bank of England shares fell from £265 to £132, those of the East India Company from £449 to £145, and those of the African Company from £200 to £45. English finance recovered from the crash in a few years, however, and resumed its growth.

France did not get off so lightly from her simultaneous "bubble," which is associated with the name of the Scottish financier, John Law. He had a plausible scheme for reorganizing French banking and public finance. Unfortunately, it was combined with a speculative venture for developing trade between France and the New World. An era of almost insane speculation followed, rendered doubly disastrous by the fact that the three billions in paper money issued by the Bank was inseparably involved with the affairs of the trading concern. The shares of his company rose over 900 per cent before the crash came. For a long period after this, the French public was suspicious of negotiable stock, which was called simply "paper," and the growth of credit was undoubtedly retarded. The "old régime" in France, with its tax-farmers, privileged classes, interior customs lines, and non-parliamentary government, was so much of a unit that it is hard to be confident about attaching specific weight to one factor or another in her later economic misfortunes.

THE EVE OF THE INDUSTRIAL REVOLUTION

Besides the stirring events of the struggle between great powers for economic and military supremacy, certain more general developments, not confined to any one or two countries, attract the attention of the student of any phase of European life early in the eighteenth century. The modern wars which followed each other in dreary succession down to 1763 were not fought on nothing, or for no object, but rather were a phase of the enormously increased wealth of Europe and were fought for the largest possible shares in it. This cannot be doubted for a moment by any one who will reflect that the expansion went right on, in spite of all the destruction. The uses and abuses of capital in its most fluid or mobile form of paper instruments, and of the instruments themselves, during the "bubble period" were merely the surface phenomena of a vast accumulation.

While the percentage of increase in foreign trade was less

in the eighteenth century than at some earlier short periods in the commercial revolution, the growth in actual tonnage was unprecedented. As in the amassing of precious metal and many other similar phenomena of economic expansion, we always have to think of the *rate* in two different sets of terms: first in dollars, tons, or some such units of measurement; second in percentages of the whole — as added, in both cases, within given periods of time. A third vital consideration in figures on economic growth is the area involved. For instance, a comparison of wheat production, or of the growth of it, in Great Britain, Russia, and the United States to-day would rest upon two sets of figures, one giving the amounts per acre, the other the amounts per person. In this way, the modern statistician is able to get at some of the qualitative differences as well as the quantitative ones. Older statistics are often unconvincing, or even obviously unreliable, because those who gathered them did not conceive their possible uses when economic science should become more highly developed, and thus left out a great deal which we should like to know. These are among the reasons why the economist is so chary of using old figures.

The outward-bound tonnage of English foreign trade in 1700 was approximately 317,000. It rose to 448,000 in 1714, to 661,000 in 1751, to 959,000 in 1783, and to 1,958,000 in 1821. From this it is obvious that we should avoid any romantic dizziness about the immediate effects of an "industrial revolution" beginning about 1750, 1760, or 1770. In value, England's imports were about five sixths of the exports in 1700 and about three fourths in 1800. We cannot get figures for exactly the same years in England and France. The total trade of England, in round numbers, was about $60,000,000 in 1700, and about $364,000,000 in 1800. That of France was roughly $43,000,000 in 1716, and $231,000,000 in 1787. French trade with the continent of North America had not been large, so that the loss of territories there in 1763 was not a heavy blow to commerce. The French East India Company, as reorganized in 1723, after the collapse of Law's

system, had yielded annual profits of about $14,500,000 in the period 1743 to 1756, closed by the outbreak of the final struggle known as the "Seven Years' War." In 1768 these returns were only $3,600,000, and the Company was suppressed the next year. The revolutionary period, beginning in 1789, soon disorganized the French navy, and the events of this era tended to enhance Great Britain's commercial advantage at France's expense. English imports increased from $80,000,000 in 1785 to $150,000,000 in 1800.

This factual background of the Industrial Revolution should make us cautious about treating the mechanical inventions as primary causes. The value of France's foreign trade increased a little over five times between 1716 and 1787, that of England not very much more. Plenty of competent authorities can be found to dispute the common statement that Great Britain was more industrialized than France in 1750. The enormous smuggling trade of the eighteenth century must add to our caution in accepting official figures on commerce too literally.[1]

Mantoux, in his *Révolution industrielle au XVIII^e siècle*, has given us the classic proof that the stimulation of industry came from the exporters. One must remember that in the eighteenth century, England's exports chronically exceeded her imports, the reverse of the situation in recent times. Commerce still dominated industry, a fact which is particularly obvious as regards foreign trade. Most of the goods consumed in England were produced there, however — Hobson's estimate is fifteen sixteenths. It was the importation of the raw materials from the Orient which made possible the development of the cotton and silk industries.

[1] The tonnage statistics are safer than those in terms of values because of the rise of prices during this century. It was quite uneven for different goods, agricultural products rising most and some manufactured wares actually falling. The general rise may have averaged as high as 50 per cent for all Europe, though any estimate may be unwarrantably near guesswork. The figures in the text are merely to aid in a rough comparison. All money estimates of rates of growth are of course magnified in a rising market of this sort. It being England's typical products which rose least in price, we would tend to underestimate her economic achievements.

New commercial centers arose. Liverpool, a fishing village in the seventeenth century, became a great port in the eighteenth. Her tonnage rose from 27,000 in 1700 to 140,000 in 1770, her population from 5000 to 34,000 during the same period. Nantes, Bordeaux, and le Havre in France had a similar, if somewhat less striking growth, and Marseilles became a center of world commerce rather than merely of Mediterranean trade. Lyons declined in relative importance, especially after the *débâcle* of the Law system. Mercantilism, whether "good" or "bad" (if these words have any place in economics), had its effects. For example, the Dutch, who had carried on largely a commission trade for others and had no great natural resources of their own, relatively declined. This must have been due in part to protective policies elsewhere, as well as to the more impersonal economic forces.

Manufactures grew up near such ports as Liverpool, favored by a good climate for the textile industries as well as by nearness to water power and supplies of minerals. Whether the commercial development "caused" that of the industries, or the converse, is rather a futile question. It is enough for us that they were associated, and that the commercial capitalism of the importer-entrepreneurs was the older.

Another proof — besides the growth of credit, exchanges, and the mobilization of capital in the form of stock shares — that the costs and risks of business enterprise were becoming stabilized and organized is seen in the development of insurance. Maritime insurance was already old, as we have seen. It was in line with the general development of collective enterprise to spread out the risks among a number of people, so that all would lose a little instead of one losing everything. One simple way of accomplishing this was by means of an agreement among coöperating merchants to distribute any losses incurred. All would sign their names beneath the agreement, from which practice arose the term "underwriting." Greater specialization and organization

were inevitable as business grew more complicated. Merchants developed the habit of meeting — for example in the great coffee-houses of London, especially at Lloyd's — and arranging for the insurance of ships. The next step was the organization of companies. By 1725 most of the maritime business in England was in the hands of two stock companies, the London Company and the Royal Exchange. In 1706 appeared the Sun Fire Company, following a long development of fire insurance since the great fire of 1660. The Friendly Society, a mutual life insurance organization, had been organized in 1684, but the first great companies were the Amicable (1706) and the Equitable (1762), both of which historic English concerns are still in existence.

In France, the *Compagnie d'assurances maritimes* was founded in 1750, and was broadened out in 1753 into the *Compagnie d'assurances générales*, which also insured houses against fire. Strangely enough, furniture was not included. A new concern, the *Compagnie d'assurances contre l'incendie*, created in 1786, covered furnishings, but not jewels and securities. It disappeared in 1793, a victim of the general circumstances of the French Revolution, and particularly of a foolish and ill-timed scheme of the Constituent Assembly for establishing a system of social insurance. The competition of the stock companies was fatal to the business of the individual insurers. Systematic tables of risks had not been developed in the eighteenth century. The more legitimate business was hampered for a long time by its traditional association with speculation and outright gambling.

All through the eighteenth century, the price level crept up, but more rapidly during the second half. It was most unevenly scattered over different kinds of products. This is evidently one reason why its effects on different countries were not the same, either in force or in kind. We can confidently attribute the stability, and in some cases the fall, in the prices of manufactured goods to industrial progress. Against the background of rising agricultural prices, including that of the land itself, these special cases are arresting.

Various explanations of the general rise were offered. Arthur Young, observing French conditions just before the Revolution, attributed it to the increase of population. The amount of precious metal steadily rose. Few people at the time suspected one of the first factors which would occur to a present-day economist: the multiplication of credit facilities which accompanied the accumulation of actual capital goods and enabled what money there was to carry on more transactions. All these factors were spread over the entire century, and are by no means to be attributed solely to the Industrial Revolution, the economies of which rather combated than accelerated the general price tendency.

THE OLD RÉGIME AND THE NEW IDEAS

Dramatic interest in the French Revolution has led to a detailed study of the "old régime" in France which preceded it, and to a tendency in the minds of those who read history to assume that the conditions so eloquently described under that title were more strictly limited to the Continent than was actually the case. Important vestiges of the strip system of agriculture, of the village organization which went with it, and of gild restrictions in the towns survived in England even into the nineteenth century. Ancient class privileges and prohibitions had yet to play important rôles before the "reforms" were complete — in so far as they have been achieved to date. While the conventional approach offers overwhelming advantages as to convenience and brevity, we must keep the mental reservation that the boundaries are thus made too sharp — that the method carries with it a certain distortion, like the error in the best of compasses, which could do damage if the user were not aware of it.

In the France of the second half of the seventeenth century and the first half of the eighteenth, the Parliament or States General had come to be regarded as an ancient and closed episode in an outlived system of government. This fact was patiently explained to the British in 1713, while the ratification of the Treaty of Utrecht was being discussed. At that

time, the body had not met for ninety-nine years. France was governed by a privileged bureaucracy, arranged in classes. So was England, for that matter, but her system gave the new economic leaders, who were genuinely important in the national life, much more influence. There were more vestiges of feudalism in France, but French agriculture was prosperous, and the peasant was probably as well off as any in Europe. Of the cloud of specific abuses which need not be catalogued here, all were linked in one way or another with the costly and relatively unadaptable administrative system. The Treasury was chronically in trouble, especially after the military expenses and misfortunes which culminated in the disastrous treaty of 1763.

Treasurers of the central Government and of the provinces, tax-receivers and tax-farmers (collectors on contract), and financiers whose main business was the traffic in advances to the Treasury, tied private finance to the State — and hence to the abuses. *Partisans* or *traitants* could acquire the right to collect some tax or to hold some office for an advance in time of need. When the revenues did not suffice, which was often, those of the following year would be discounted for ready money. Even in Colbert's time, such a series of contracts for $2,884,000 was discounted at a loss to the Government of more than a sixth, and Boulainvilliers claimed that of $200,000,000 advanced between 1689 and 1709, the speculators retained $53,200,000, or more than a quarter. Profiteers in munitions and other war materials made fortunes at the expense of the Government. Huge amounts in the form of incomes for life or in perpetuity (*rentes*) weighed upon the royal Treasury, the Church, and the various provinces. By 1789, there were $12,400,000 of these from the Treasury and around $30,000,000 from the Church, not counting those of the provinces.

In a country whose offices were apportioned by class distinctions, many of which could be purchased, fortunes or incomes thus attained tended to disappear from the normal economic channels. The Church, which was fabulously

wealthy, did not nominally pay taxes, but made "contributions," to which strings were often attached. Owing to restrictions, interior customs lines, and local privileges, goods did not move freely to market, even within the country. Every attempt to correct one of these abuses, often recognized as such, met with resistance from some privileged class, person, or locality. The business public was beginning to feel decidedly that it had "natural rights," dictated by certain principles of common sense and rational administration. It was no longer possible to put all the people who were able to demand recognition on a budget already swollen to the point of bankruptcy. By "the abuses," complaints of which filled the air, was really meant "the privileges," which kept a group of incompetent people, many of them indifferent to administration on principle, at the head of state and society. In an age of capitalistic expansion, such a government was in a dangerous position.

The situation was no better in most of the Continental countries. Oftener it was worse, for of all the states which had copied French "Grand Monarchy," not many were as rich as France. Even in England, old economic regulations and prejudices were overcome very slowly, and after bitter contests at every step. Dealing in futures or contracts on the stock exchange, without delivery, was repeatedly denounced in the House of Commons during the eighteenth century. Speculation was condemned by both David Hume and Adam Smith, neither of them in any sense reactionaries.

Publicity, including advertising, made great strides during the eighteenth century. Both the Dutch and the English had practiced commercial advertising in a limited way at the close of the previous one. Such methods of actively soliciting business were generally greeted as unfair competition. The business man was supposed to sit quietly in his shop or office and wait for customers to seek him out. Nevertheless, the contrary practice grew. Passive resistance to competition gradually came to spell ruin, and the whole code of business ethics was overturned. This little-worked field

of economic history is one of the most inviting for serious, detailed research. France was much behind England and the Netherlands in the spread of advertising. A Paris ordinance as late as 1761 condemned a group of merchants for spreading circulars announcing the sale of goods at a reduced price.

Mercantilism assumed the need of a degree of protection which was outgrown by one industry after another as processes were improved. The cottons group in Great Britain, for example, began to grow extremely restive about the middle of the eighteenth century, feeling that the legal restrictions were more a hindrance than the protection was a help. In the end, those who wanted greater freedom of competition triumphed. The objections to the mercantile system were formulated as a new set of "principles" by the French *Économistes*, better known as the "Physiocrats." Turgot, who became Louis XVI's Finance Minister in 1774, was a pupil of Quesnay, the outstanding leader of the group. They believed that governmental restrictions should be strictly limited to the protection of men's "natural rights" to make the most of their capacities. Their stress upon agriculture, as the only truly productive kind of effort, since it added to the supply of primary materials, did not make them intolerant of commerce and manufacturing. Adam Smith, whose *Inquiry into the Nature and Causes of the Wealth of Nations* was published in 1776, was not a Physiocrat, but his views were influenced by those of his French contemporaries.

This really great treatise is too broad and detailed to lend itself to brief summary. It merely criticized some of the inconsistencies of the Physiocrats, but delivered the deadliest kind of an attack on mercantilism, by adopting an entirely different, systematic approach to the subject-matter of economics, more in harmony with conditions as they had become. To Adam Smith, the governmental regulation of business was not founded upon abstract principles, such as justice, but upon expediency alone. Better than any other

economist of his day, he appreciated the practical advantages of a wide territorial specialization — broader even than the confines of nations — each region or country exploiting its own peculiar advantages. In this way, one nation could profit by the rational development of another along certain lines, provided the movement of goods were reasonably free, each exchanging the things it could best produce. Such a liberal policy would not necessarily abolish all the protective tariffs erected by the mercantilists, but it would reduce them to the narrower confines of obvious, and often temporary, expediency. The later Manchester School of economists allowed *laissez-faire* to run almost into a political dogma of rampant individualism, opposing even perfectly necessary public interference to prevent abuses. Adam Smith himself, as his writings reveal him, was too sane and realistic to have been led to any such extremes.

Turgot's attempts moderately to liberalize the French state regulations soon procured his dismissal at the behest of the vested interests affected, and France swept on toward the financial distress which was one of the main immediate factors in overthrowing the old régime. The loss of the thirteen North American colonies in 1783 was only one of a group of coincident incentives for Great Britain to modify her tariff policy. A large part of the restrictive system, as affecting cotton goods, had disappeared on the eve of the American Revolution, as a result of the clamor of the industrialists themselves. The effects of the technical advances associated with the Industrial Revolution were already beginning to be felt by 1783. Various duties were cut, and in 1786 a commercial treaty with France was signed. British woolen and cotton textiles and hardware were admitted into France at fairly low *ad valorem* rates in exchange for reciprocal concessions on French wines, brandies, oils, and other products. The writings of the *Économistes* and of Adam Smith certainly aided in mobilizing the arguments which the economic changes themselves were bringing forward.

Much of the systematic literature on the French Revolu-

tion, which more or less crystallized opinions about it, was written in the middle third of the nineteenth century, under the influence of "economic liberalism," including a wave of enthusiasm for free trade. Careful students are not so sure to-day of the practical benefits of this tariff agreement of 1786. English competition was at least partially responsible for a considerable amount of distress and unemployment in the textile centers of northern France. Coinciding with lean harvests and other factors, this aggravated a concentration of uprooted poor people in Paris which furnished an unfortunate atmosphere for solid work on the part of the Constituent Assembly.

NOTE ON THE RISE OF MODERN CAPITALISM

In the last chapter, a brief attempt was made to sketch the background and beginnings of the modern form of capitalism. After noting the fact that controversies have arisen as to the main sources of the capital and the identity of the religious, national, or other groups which have been most active in developing its present-day organization, this formal approach was dropped. It seemed more logical, especially in the space available, first to set down the main facts about the expansion of Europe and the more obvious ways in which this process affected the search for larger, more flexible types of organization. In dealing more specifically with the development of these types in the present chapter, the emphasis has again been placed on the less controversial points about the growth of capital and the accompanying changes in methods of applying it. There is a more formal and sociological approach to the same problem, of which every student of economic history should be aware. Because it is formal, dealing with general definitions of phenomena which were not uniform at different times and places, no one of the writers of its vast and bewildering literature agrees exactly with any of the others. Some of them have developed such different attitudes and dealt with such distinct materials, in their various works, that they seem at times to disagree with themselves.

What are the essential features of the "capitalist régime" of to-day which distinguish it from its predecessors? One of the outstanding facts about it, from the angle of organization, is the presence of capital in the form of *negotiable stock*, viewed as an *investment* to yield *interest*. Before the italicized words themselves

acquired their present definite meaning, strong national states arose, joint-stock companies were perfected in the atmosphere of international trade, and machine industry underwent a considerable development. National regulation superseded local, and finally political control was weakened to a shadow of its former self by the growth and toleration of economic competition. The family and the gild gave way to the individual as the final unit, at the same time that the individuals were being organized into much larger productive groups than either of the first two. Not until the final triumph of machine processes in the nineteenth century had transformed the whole organization of labor, and with it the structure of social classes, did capitalism achieve its present form. Considering this long historical process as a sort of drama, many attempts have been made to pick out the leading actors and assign them their rôles.

Professor Werner Sombart, who has probably written more on the subject than any other one person during a quarter of a century, was not very clear at the outset as to just what he meant by capitalism. In the first edition of his *Der Moderne Kapitalismus* (1902), he was seen to be enormously impressed by the mere accumulation of capital, and by rent as a factor in the process. He later multiplied studies on war, the Jews, and finally the entrepreneur or business man, arriving eventually at a multiple or eclectic explanation. Of Sombart's various theories concerning the development of capitalism in modern times, most attention has been given to his claim that the emigration of Jewish financiers, first to Amsterdam at the close of the sixteenth century and a little later to England, accounts for the ascendancy of the Dutch and British. Some of his "proofs" are quite fanciful — including those of the rôle of the Jews in colonization — and have been undermined by careful research.

Max Weber thought that it was rather the Continental Calvinists and English Puritans who supplied the competitive capitalist spirit or mentality (*Geist*). Tawney, Sée, and others have noted that there are many common elements in the attitude of the Jews and the various Calvinist groups.[1] In developing his contention that the English Puritans contributed much more than the Continental Calvinists toward the triumph of the "economic virtues"

[1] R. H. Tawney, in his *Religion and the Rise of Capitalism* (London, 1926), sketches the arguments concerning the parts played by religious groups. The value of this work as a well-balanced summary is lessened by the fact that its author has a position of his own. For example, in outlining that of Max Weber (pp. 319–21), he gives little idea of its real breadth, as developed in Weber's *Wirtschaftsgeschichte* and his study of *Die protestantische Ethik und der Geist des Kapitalismus*. George O'Brien, in his *Essay on the Economic Effects of the Reformation* (London, 1923), reaches conclusions much like Tawney's.

over medieval prejudices against the "sin of covetousness," Tawney deals very plausibly with the historical setting of the movement. Besides living in a highly commercialized and individualistic society, the Puritans had before them a clear picture of what they did not like, in Charles I's "Colbertist" state capitalism, against which they revolted. Both the Anglican and Catholic churches also opposed the growth of individualism and economic competition on principle. The final opponent which aided in crystallizing Puritan views was the titled, landed, and privileged nobility. Later on, England was in a peculiar situation because of her leadership in the Industrial Revolution. English economic society, Tawney holds, thus developed with the interests of the city in the foreground, while those of the State were emphasized in Germany, and French thought was dominated rather by the speculations of philosophers than by the exigencies of business.

The very plausibility of the conflicting "religious group" theories is disconcerting, since they cannot all be true. Any detailed mention of the long list of writers on the evolution of capitalism, together with their views, would merely distract attention from the main points to which a very brief sketch must be limited. All of these people either frankly or tacitly acknowledge the force of another group: the national state. It was as such that England, Holland, and France achieved their eminence in modern economic life, whatever the religion of the financiers and traders at the outset. Lujo Brentano prefers to go back to the crusading period and follow the evolution of competitive trade as his thread of continuity.

Every one of these theories is also obliged to lay some stress on the trading town as the cradle of modern capitalism; particularly those cases where the town was also an important financial center. It continued to have its own interests and point of view, even after its power to regulate economic life had been curtailed by the national state. We might remark that both Jews and Calvinists were a part of this trading atmosphere, rather than that of the village or country — the first perforce town dwellers because they were Jews, and the second perhaps Calvinists because, among other reasons, they were first townsmen and traders. Economic competition was not the only expression of rising *individualism*, which Sée goes so far as to call the one issue, "whether we consider the progress of capitalism or the brewing of the Renaissance and the Reformation."

So invariably do these trains of thought about broad social groups and their general economic philosophies come back to the geographic and historical realities of the town as the modern age inherited it, that one is often tempted to brand them as mere intel-

lectual excursions. Doubts of their solidity as explanations of economic change are not allayed by the amount of non-economic controversy they introduce. Oftentimes the issue between the conflicting views seems to be largely one of taste. The writer who disapproves of the ethics and procedure of modern competition is likely to deplore those currents in the evolution of commerce and finance in the towns, during the crusades and later, which ushered in contemporary capitalism. It is not strange that this same person should dislike the Calvinists or Jews who took so active a part in the process.

This introduction of an element of moral judgment is a source of confusion. The increasing emphasis upon geography in the newer work on economic history is undoubtedly due in part to a desire to keep close to things which can be defined with considerable accuracy, weighed, measured, and checked. To explain the rise of modern capitalism in terms of religious groups leads to the dragging in of other controversies which have not proved very fruitful. For example, it brings in the old dispute, which has filled many volumes, as to whether the Protestant Revolt was an attack upon a fine type of society, susceptible of indefinite improvement along the main lines already laid down, or a liberating revolution against intolerable conditions, maintained by a sacerdotal tyranny. The way is thrown open to another series of assaults upon the ethics, rather than the economics, of modern competition, vividly exemplified in A. J. Penty's *A Guildsman's Interpretation of History.* Very likely much that was "good" disappeared in the too rapid overthrow of the medieval economic system; but this is a dangerous question to inject into economic history, which, to be of much use, must concern itself mainly with what actually occurred, and how.

Professor Henri Sée has done economic history an admirable service in his little popular book entitled *Les Origines du Capitalisme Moderne.*[1] It is not an analysis of the theories of previous writers on the subject, so much as an arrangement of well-authenticated historical facts. In recommending this work, we venture to suggest that its main outline is pretty sure to stand. When capitalism is traced from one place or phase to another, the emphasis is placed upon such geographic realities as advantages in resources or position, as these affected the inherited structure of economic society and the policies of men.

If we adopt this point of view, it is easy to find flaws in the type of argument criticized above. Leaving Professor Sombart's various and sometimes slightly muddy theories to the host of critics already in the field, it may be profitable to glance at Professor Tawney's

[1] In the Collection Armand Colin, Paris, 1926, 210 pp.

argument concerning the rôle of Puritanism, as sketched above. To begin with, it is open to doubt if English town society was more commercialized or individualistic than that of the Continent at the time of the rise of the Puritans. Carefully analyzed, do Charles I's mercantile policies suggest "Colbertism" or "state capitalism" any more than those of Cromwell, under whose régime the first of the Navigation Acts was passed? As to Anglican and Catholic opposition, were they not on exactly the same grounds? No convincing proof is presented that such moves as the legalization of interest were more (or less) delayed on the Continent than in England because of religious opposition. If the resentment of the business community against the nobles burned hotter in England, or was more effective, it was certainly not primarily because their privileges were greater; nor is it to be admitted offhand that their resistance to change accelerated it. Was Puritanism a "cause" or a mere incident of the growth of English cities, with their commerce, industry, and typically urban point of view?

The final two items, comparing England with Germany and France, are perhaps the most dubious of all as explanations. Once Germany's political disunity was cured, capitalism made as rapid strides as anywhere in Europe, which suggests at least one tangible reason for any earlier backwardness. Moreover, her case takes us back to the main religious argument. The most highly industrialized regions of modern Germany are divided between Catholicism and Protestantism, depending, it would seem, upon natural resources and location. Likewise, the industrial region of northeastern France is Catholic. And how about Belgium, whose industrial concentration is hardly surpassed in Europe? It is not proved, and seems hardly susceptible of proof, that French thought is any less individualistic than English. Before we attach too much weight to its being dominated by the speculations of philosophers, we should demand both definitions of the terms and substantial evidence as to the facts.

SUGGESTIONS FOR FURTHER READING

This chapter and the previous one covering the same period of time, the sources naturally overlap. Note particularly the references above to the works of Hauser, Sombart, Strieder, Tawney, and Weber on the origins of capitalism. We might add Sombart's books, *The Jews and Modern Capitalism*, and *The Quintessence of Capitalism*.

Abbott, W. C.: *The Expansion of Europe*, vol. I, chaps. X, XXI.
Ashley, W. J.: *The Economic Organization of England*, lectures IV–VI.

*Botsford, J. B.: *English Society in the Eighteenth Century as Influenced from Oversea.*
**Cambridge Modern History*, vol. I, chap. XV.
Cunningham, W.: *Western Civilization*, vol. II, book V, chap. II.
*——— *Growth of English Industry and Commerce in Modern Times*, book VI, chaps. I–XIV.
——— *The Progress of Capitalism in England.*
*Day, Clive.: *A History of Commerce*, part III, chaps. XVI–XVIII.
*Furniss, E. S.: *The Position of the Laborer in a System of Nationalism.*
*Gide, C., and Rist, C.: *History of Economic Doctrines from the Time of the Physiocrats to the Present Day*, pp. 1–117.
*Gillespie, J. E.: *The Influence of Oversea Expansion on England to 1700.*
Gretton, R. H.: *The English Middle Class.*
Hayes, C. J. H.: *Political and Social History of Modern Europe*, vol. I.
Hewins, W. A. S.: *English Trade and Finance.*
Higgs, H.: *The Physiocrats.*
*Hobson, J. A.: *The Evolution of Modern Capitalism* (revised edition), chap. I.
Levasseur, E.: *Histoire des classes ouvrières et de l'industrie en France, avant 1789.* 2 vols., 1901 (2d edition).
——— *Histoire du commerce de la France*, part I.
Martin, G.: *La grande industrie en France sous la regne de Louis XV.*
——— "La monnaie et le crédit privée en France aux XVII^e^ et XVIII^e^ siècles," in *Revue de l'histoire des doctrines économiques*, 1909, vol. II.
*Mims, S. L.: *Colbert's West India Policy.* (In Yale Historical Studies.)
Muir, R.: *Nationalism and Internationalism*, part II, chaps. I, II.
Mun, Thomas: *England's Treasure by Forraign Trade.* (Reprinted in Economic Classics Series, 1895.)
Ogg, F. A.: *Economic Development of Modern Europe*, chaps. III, IV.
*Pirenne, H.: "The Stages in the Social History of Capitalism," in *The American Historical Review*, April, 1914, vol. XIX, p. 494.
*Pollard, A. F.: *Factors in Modern History*, chaps. II, III, VI, VII, X.
Prothero, R. E. (Lord Ernle): *English Farming, Past and Present*, 2d ed., chaps. VII–XII.
*Renard, G., and Weulersse, G.: *Life and Work in Modern Europe.*
*Schmoller, G.: *The Mercantile System and its Historical Significance.*
Sée, Henri: "L'activité commerciale de la Hollande à la fin du XVII^e^ siècle," in *Revue d'Histoire Économique*, 1926.
*——— *L'evolution commerciale et industrielle de la France sous l'Ancien Régime.*
——— *La vie économique et les classes sociales en France au XVIII^e^ siècle.*
*——— *Les Origines du Capitalisme moderne*, chaps. III–VI.
*——— *Economic and Social Conditions in France during the Eighteenth Century*, chaps. I–VII.
Seeley, J. R.: *The Expansion of England*, part I, lecture V.
Shepherd, W. R.: "The Expansion of Europe," in *Political Science Quarterly*, 1919.
*Smith, Adam: *The Wealth of Nations.* Especially book IV, chaps. I–VIII.

*Smith, Preserved: *The Age of the Reformation*, chaps. x–xii, xiv.
Tawney, R. H.: *The Agrarian Problem in the Sixteenth Century.* (Also his introduction to Wilson's sixteenth-century *Discourse upon Usury*, London, 1925.)
*Thomas, P. J.: *Mercantilism and the East India Trade.*
Traill, H. D., and Mann, J. S.: *Social England*, vols. iii, iv.
*Unwin, G.: *Industrial Organization in the Sixteenth and Seventeenth Centuries.*
Usher, A. P.: *An Introduction to the Industrial History of England*, chaps. viii, xi.
Wallace, W. K.: *The Trend of History*, book i.
Weulersse, G.: *Le mouvement physiocratique en France de 1756 à 1770.* 2 vols.

CHAPTER III

THE INDUSTRIAL REVOLUTION

INDUSTRY ABOUT 1750

THE emphasis upon commercial and financial development between 1500 and 1750 should not be allowed to obscure the fact that industry had also grown enormously. This growth had carried with it considerable changes in organization and technique. In the Low Countries, many industries had spread from the towns to the countryside, where by the sixteenth century they had undergone a degree of capitalistic organization by "merchant-manufacturers." Among these were the cheaper grades of carpets, some linens and laces, and a light, inexpensive cloth known as *worsted*, made from Spanish wool. The rural artisan produced on a small scale, and usually marketed through a middleman or entrepreneur. Oftentimes this "merchant-manufacturer" or "clothier" also furnished the raw material. As fully developed during the two centuries just before 1750, with the various processes divided among different households, coming together in the clothier and reaching the market through him, this was called the "putting-out" system. It was very common in the textile industries of England, the Low Countries and France, as well as other places where cloth-making for the market was important.

There is a certain suggestiveness in the division of the industrial work carried on in homes into independent and dependent types — remembering always that they are not to be mistaken for general economic "stages." For example, in Brittany, a poor agricultural region without extremely active urban centers, the merchant capitalist remained such, instead of "putting out" raw or partially worked materials and gradually getting control of the industry itself. The same was true of the Belfast region of northern Ireland until after

1750. Likewise, there was a great deal of really independent rural industry in the English county of Yorkshire clear into the nineteenth century. The artisan was free to buy his own wool and to sell his finished cloth in the markets of Bradford, Leeds, Halifax, or Wakefield. Under such conditions, where the independent artisan might and could compete with the clothier, or where the industrial capitalist did not exist at all, life under the domestic system was often quite attractive. It was in many cases a mere adjunct to agriculture, carried on by renters (or even owners) on rainy days, or in seasons of little farm work.

Rural industry expanded in other regions for quite different reasons. Where the soil was rich, proprietors were particularly tempted to apply capitalistic methods to agriculture. The social prestige of landholding led many men who had made fortunes in commerce to purchase estates, and there was a certain carry-over of their earlier methods into their later activities. Many peasants and small renters increased their holdings. Technical improvements were also made. The name of Jethro Tull (1674–1740) is associated in England with the introduction of machinery for drilling in grain instead of sowing by hand and for more thorough cultivation. About the same time, Lord Charles Townshend experimented with clover, turnips, and other crops which could make rotation possible, eliminating the fallow year. With the solution of the problem of winter forage, more and more attention was paid to stock-raising for profit. The attempts of such men as Robert Bakewell to improve the breeds of cattle and sheep led to renewed agitation for enclosure — the strip system, with common pastures, being irreconcilable with specialized pure stock, which must be kept apart. Drainage and fertilization were also studied by men like Thomas Coke, a myriad of experiments yielding surprising results.

Back of all this, as the most positive factor of all, was an expanding market. France had a road system in 1750 which should certainly command the respect of any American who can remember our own of a hundred and fifty years later. If

English roads of the eighteenth century were often criticized, it was partially because of the enormously increased demands made upon them. A few detached sentences from the writings of travelers like Arthur Young are sometimes permitted to cloud the fact that some improvements had been made.

The gradual destruction of the old village system by the consolidation of holdings and the introduction of more efficient farming methods left propertyless many peasants in the richest localities. Especially in regions where this condition was associated with considerable urbanization, the rural artisan was often left practically at the mercy of the clothier, who became a real industrial entrepreneur. Some such situation had arisen within Flemish towns at a much earlier period, but never to anything like the degree that it developed in the countryside of the same region in the eighteenth century. Oftentimes the clothier distributed the materials, owned the tools, controlled the market, and even ventured to some extent to supervise the processes. In eastern France before the French Revolution, machines were installed in some cases to carry on these rural industries — for example, in cotton-spinning — and the competition was disastrous to old established towns. Before the general introduction of *power-driven* machinery, there was an evident tendency, both in England and on the Continent, to group the various processes under the same roof where local conditions and the nature of the industry made it practicable. The obstacles were considerable, especially in the case of rural industries, often outweighing the advantages of improved supervision and the saving in transportation.

Enclosure went on at an increasing rate in England after 1740, and in a hundred years the village system had largely disappeared. Much as we read about the enclosures under the Tudor kings, less land was involved in the movement for the whole period than was enclosed during some single years of the later century mentioned above. To illustrate by two fairly representative decades: 469 enclosure bills were passed

in the decade beginning with 1790, affecting 858,270 acres; and in the decade following 1810, 853 bills permitted the consolidation of 1,560,990 acres. After 1801 it was easy for private individuals to get such bills through a docile Parliament and to oust the peasants, who had enjoyed some protection up to that time. The old régime in France did retard the application of capitalism to agriculture — how much, it is hard to say, for the system was not at all uniform and some change took place, even in its strongholds, long before 1789.

In trying to appraise the influence of the export market overseas before 1750, it is perhaps no fairer to state that this stimulated manufacturing than that the increased industrial output expanded the market. The colonists were far more important as buyers than the natives. In the single year 1658, no fewer than 24,000 pairs of shoes were sent to the Virginia colony alone. There was a limited market for textiles in the North American colonies, but hardware was in steady demand. Among the goods sent out were muskets, hoes, nails, swords, tools, lead, pewter, and tinware. Wool and cotton manufactures were the largest items in the total, including the commerce with the Orient, iron and steel products ranking next. The gunpowder industry was an important one. Shipbuilding was greatly stimulated by the growth of this export trade. Increases in Europe's population and in the range of goods demanded also constantly built up the home market.

We know now that the amount and variety of goods which the world market could be made to absorb were capable of an expansion which nobody would have dreamed of in 1750. The commercial revolution had already opened up enough of this market to indicate vast possibilities. Perhaps the most important changes which had taken place were in the realm of ideas, beliefs, and incentives — where nobody but a very simple-minded person will use scales or a measuring-stick with any confidence. The medieval craft gild system had never been, strictly speaking, a form of industrial organiza-

tion, but merely a method of regulation. In suppressing competition it had curbed individualism, enterprise, and to a very large extent active demand. By curtailing changes in the variety or rate of output and by stereotyping social classes, this regulative system had also prevented radical increases in demand, since wants which would generally be futile if entertained are not likely to bring actual goods into the market, and the base of multiplying wants was thus kept artificially narrow. That demand tends to be indefinitely extensible where competition is general and wants are freely expressed is axiomatic in modern economic thought, because it is an observed fact. Given these two conditions, it follows inevitably that the wants must tend to outstrip the limited supply of goods. No perfect equilibrium is possible, but a practical, working balance between wants and supply can be achieved by keeping the wants down and forcing up the supply. The first of these correctives predominated in the medieval system, and the modern one has perhaps overstressed the second. Once the medieval hierarchy of the "spiritual" over the "temporal" was overturned, competition unfettered, and the acquisition of wealth made respectable, a stupendous force for change was unchained.

This background of expanding middle- and lower-class demand was a vital factor in the growth of rural industry which preceded the Industrial Revolution. The putting-out system was particularly adapted to the rougher, less expensive types of cloth, for both home and foreign markets. Those countries and regions which specialized in these grades had an advantage in that their market was developing more rapidly. When the new textile machinery appeared, this was even more marked. It is easier to make a fairly coarse or loose cloth by machinery than it is a fine one. Especially is it easier to begin doing so. Once a start was made and the profits began to come in, there were both funds and experience for improving the machines, which were thus enabled to encroach more and more upon the handicraft monopoly of the higher grades of goods. As between nations, England had

specialized more in the types of cloth which lent themselves to mechanical processes than had France.

England's political, legal, and military situation was likewise favorable to the growth of the new industrialism. She had developed the basis of representative government and parliamentary supremacy at least a hundred years earlier than France. Her merchant classes had become able to influence political policy and adapt both domestic institutions and international relations to their needs. Arbitrary royal interference with economic activities and personal property rights had been successfully terminated by 1689. Excessive and inequitable taxation, contrary to the wishes of the voting classes, had been brought to an end. Laws had been passed guaranteeing the security of property and the freedom and sanctity of contract. A large degree of freedom in industrial and commercial action had been secured. The average English investor was perhaps freer than any other to make use of his commercial and industrial sagacity and foresight without fear of political interference. Even diplomacy had been colored by the new economic spirit after the revolution which dethroned James II in 1688. In the early part of the eighteenth century, Walpole directed English foreign relations largely in the interest of investors and merchants, setting a precedent which was widely followed thereafter.

Finally, the Industrial Revolution was barely under way when the old régime fell in France, precipitating a quarter of a century of disturbances on the Continent. This period proved as favorable to British industry as it was destructive of that of her rivals. It was partially in recognition of this fact that Napoleon attempted to ruin England economically with his Continental Blockade, designed to keep British products from the near-by European markets.

By 1750 the textile industries had undergone vast changes in organization and considerable alteration in technique. The growth of the putting-out system, in both country and town, together with the emphasis on new types of goods, had disrupted the restrictive medieval economic order, body and

spirit, and its fragments were fighting a losing battle for existence. Considering the eagerness for mechanical improvements, we might even be surprised at the small number which appeared in the first half or more of the eighteenth century.

The mechanical developments which were to make the most difference in the long run were not, it now appears, the ones which attracted the most attention at the time. At the opening of that eventful century, textiles were king in the economic realm. All the metal trades put together were a poor third in commercial ranking, if we separate cottons and woolens for the first and second places. That obscure mechanics were doing clever things along seemingly banal lines like the toy industry did not seem very important. Even the experiments in new processes for making iron and steel did not receive much general notice until they reached a highly practical stage. This was just at the time when a succession of textile inventions put a new emphasis upon metals for the construction of machines which paid enormously. If we look at the mechanical revolution of a century or so following 1750 more or less separately from the accompanying economic changes, we must surely admit that it was a much bigger thing than a series of improvements in the methods of making cloth. The real revolution was a very broad one in man's power over Nature, by making her work for him. Iron and coal were to be the trump cards in this game.

TEXTILE MACHINERY

"Machine" is a very loose term which it seems best to use here in its restricted sense of a train of mechanism or an instrument for the conversion of motion, thus distinguishing it from a simple tool or implement like a chisel or an axe. The spinning wheel, which was in use before the Industrial Revolution, was undoubtedly a machine. Perhaps the old hand loom, which was little more than a frame for holding the warp or lengthwise threads while the woof or weft was being drawn

through crosswise, hardly deserves the title. It became a machine, strictly speaking, however, with the addition of John Kay's "flying shuttle," patented in 1733. A simple spring device threw the shuttle to and fro, saving more than half the labor previously required for weaving certain kinds of cloth, and speeding up the process. Even before this time, the weavers had tended to press upon the spinners for yarn. A whole industry, the most important in England, was hampered in its growth for the moment by the inadequacy of one process. Note the phrase "hampered in its growth." Back of the whole situation was the commercial factor of an increasing demand for cloth.

Attempts were made by many ambitious inventors to devise a better spinning machine than the simple wheel, and prizes were offered. One device of Wyatt and Paul, which appeared shortly after Kay's invention, seems to us now to have needed only a little perfecting to have made it successful. About 1767 James Hargreaves developed a machine which was practically a spinning wheel with multiple spindles. The story goes that he had noticed a spinning wheel continue to revolve after it had been turned over on its side, and thus conceived the idea of standing the spindles up, driving a number of them with a belt from one wheel. His earliest models had eight spindles, but before his death the number had been increased to eighty. Hargreaves's machine was at first quite light and easy-running. As it increased in size, the problem of power arose; but by that time other important developments had taken place. The "jenny," as it was called, had the further defect that it would spin only the coarser and looser yarns, calling for a mixture of flax with the cotton.

Both the simple wheel and the jenny were intermittent spinning devices. They did by hand- or foot-propelled machinery what the spinner had done for ages with the thrown spindle: drew out a quantity of fiber, twisted it, and paused to wind it before drawing out another. The first practical continuous spinning machine was called the "water frame,"

because of the necessity of using power to turn it, on account of its size and cumbersomeness. Richard Arkwright's name has been associated with it, though he purloined the idea from a man named Highs, getting it from the maker of the latter's model. Highs, whose model took a prize in 1767, had used the general principle of the earlier machine of Wyatt and Paul, which had failed because of a high tension which broke the yarn. Arkwright's first machine was finished in 1769. It was run by horse power, but his Cromford mill, set up in 1771, used water power. The fiber was pulled out by successive sets of revolving rollers, the later ones turning more rapidly, and then twisted into yarn. This yarn was firmer than that produced by the jenny, making the use of linen in the weft of the cloth unnecessary.

While the roller-spinner is still practicable for the yarn used in making some grades of cloth, it did not solve the multiple problem of hardness, fineness, and smoothness. Arkwright's most important contribution was the commercially successful application of power on a considerable scale. It was Samuel Crompton's hybrid "spinning mule" of 1779, combining the qualities of the earlier devices, which made it possible for the more expensive English labor to produce the finer grades of goods in competition with the East Indies. A modified form of Crompton's mule has remained one of the most significant and widely used of the mechanical spinning devices to our own time.

Eli Whitney, an American, made the first successful cotton gin in 1792. It consisted of a spiked cylinder, rotating through a bed-piece also equipped with rows of spikes, for mechanically separating the seeds from cotton fiber. This machine brought about a revolution in the whole cotton industry, by making possible the production of fiber ready for spinning in vast quantities and at a relatively low cost. Without it, the other inventions would have been much less important, and the enormous increase in cotton-growing in the United States could hardly have taken place. Our exports increased, in round numbers, from 200,000 pounds in

1791 to 2,000,000 pounds in 1800, and the amount grew progressively. The consequences for agriculture in the American South were vast and complicated, the new industry serving more than anything else to revive the declining enthusiasm for negro slavery. Nearly a century elapsed before the value of cotton seeds was recognized, and formed the basis of new industries.

The flying shuttle was a relatively efficient device. About forty years passed by after the great inventions in spinning before any power loom was sufficiently perfected to become a serious competitor. Edmund Cartwright, an English clergyman, devised one as early as 1785, and had a working model by 1787, which was patented. It was quite clumsy, and never had any commercial success. A long series of improvements by Johnson, Radcliffe, Horrocks, and others paved the way to the first real commercial success in 1822. An automatic loom for making the finer cloths had to wait until metallurgy and machines of precision in general had reached a higher stage of development. The Kenworthy and Bullough model, which appeared in 1841, marked the transition to the present-day type.

There were many other mechanical innovations in the textile field, such as the use of roller devices in printing calicoes. Without denying the importance of the sum total of changes in cloth-making up to about 1840, however, the more we look at the Industrial Revolution as a whole, the more we are convinced that it did not consist of these. The next chapter may be anticipated by the remark that industrial capitalism had already made beginnings under the putting-out system, and that the single proprietor or partnership, rather than the then joint-stock company, characterized the earlier textile mills. Even if we regard the Industrial Revolution chiefly as a mechanical one, which is rather an obsolete view, we cannot fail to note that before the improvements in cloth-making went very far, they encountered the general problems of power, machine design, and metallurgy for providing suitable materials.

IRON, STEEL, AND COAL

To take up the development of the commercially successful steam engine at this point would force us constantly to refer to the progress, or the want of it, in iron- and steel-making. Such a mechanism obviously has to be made out of materials of certain kinds, sizes, and shapes. Watt's difficulties consisted not so much of a dearth of ideas as to what he wanted done, as of the want of suitable materials and of known processes for getting them into the desired forms. Castings of the required size, quality, and precision would have been impossible a few years earlier. Finally, the definite conception of a complicated mechanism does not drop full-blown into the mind from nowhere. The Newcomen pumping engine with which Watt began had been developed because it was needed in coal mines. These had become common because of a growing scarcity of wood; and one reason for this was that the increasing demand for iron took a great deal of charcoal.

It will be recalled that the expensiveness of the minimum organization required for oversea trade led to the perfection of the joint-stock company, and that the high cost was due only in part to the mechanical equipment. For instance, the demand for permanency was a big factor, the initial or preparatory investment being large and the operations necessarily spread over a considerable period of time. Mining was the one eighteenth-century industry which most nearly duplicated these conditions; particularly coal mining. By 1750 it had generally outgrown the stage of profitable exploitation on a small scale. The sinking of shafts, the construction of side galleries, ventilation, pumping out, raising the coal to the surface, and the accompanying engineering and tool-making services were among the operations which required a large capital investment. They also called for scientific management. Such organization, applied to such problems, was a first-rate factor in the development of industrial capitalism and also of machine processes. It was the Newcomen pumping engine of 1705, as perfected in the

mines during more than a half-century, which formed the basis for Watt's more famous invention. In 1756 the *Société d'Anzin*, a French coal mining company, had a thousand miners, besides half as many workmen in its shops. By 1789 the total number had risen to four thousand, and it was using a dozen steam engines.

Entirely new vistas opened before this industry about 1735, when iron was first successfully smelted with coke. Considerable progress had been made in furnace design during the Middle Ages, and the mechanism for furnishing the air blast had been greatly improved. The Moors had been the skilled artisans as well as the rulers in the Spanish peninsula, and after the religious persecutions many remained behind, converted either nominally or in fact. Catalonia was a great source of iron and steel, and the swords of Toledo were almost as famous as those of Damascus. A blowing device was developed in Spain which used the air forced from a great tube by a descending column of water. Technical progress continued down to the eighteenth century, the Germans in particular greatly enlarging the furnace and improving its design. Theirs was fed from the top, and insulated by air-chambers to prevent the escape of the heat. Two great difficulties remained: first, the heat was still insufficient thoroughly to liquefy the ore, and second, the chemistry of iron and steel was not understood. Steel is merely pure or malleable iron with a small percentage of carbon added — or rather remaining behind, in the earlier processes. We now add about one per cent of carbon and various metals such as vanadium, nickel, and chromium. Too much carbon — above two per cent — gives cast iron instead of steel. Different kinds or grades of iron and steel were produced separately by taking an ore whose behavior when heated was known by experience and treating it by rule of thumb. The general solution had to wait upon the growth of the science of chemistry in the eighteenth and nineteenth centuries. In the meantime, it was discovered that steel could be made by reheating and further refining cast iron in a special furnace.

A number of attempts were made as early as the seventeenth century to use coke or coal instead of charcoal in firing. Dud Dudley, an Oxford graduate, took out a patent in 1622, which was later annulled. His competitors persecuted him, wrecking one of his plants after an earlier one had been destroyed by flood. We cannot be certain now as to the details of his process. The growing scarcity of wood for charcoal led to new attempts along the same line in the eighteenth century. The elder Darby used coke for preliminary heating about 1708, and his son made the venture a commercial success after a quarter of a century by employing a water-wheel bellows, using a Newcomen engine to hoist the water.

Smeaton's cylinder blower, introduced in his Carron Works in Scotland in 1760 to replace the bellows, was almost as important as the Newcomen engine in paving the way for Watt's great invention. It led to a great deal of mechanical improvement in the making of cylinders, pistons, valves, packing, etc., and called for specially refined and polished steel for the moving parts. At first it was operated by water power, but Smeaton later connected it with the beam of a huge Newcomen engine.

Smeaton's machinery largely solved the problem of making pig iron. To make good steel in quantities, however, it was still necessary to find some method of removing more of the carbon. After a number of lesser improvements had been made, Peter Onions brought out his puddling process in 1783. This consisted of reheating the iron in a special furnace until it was soft like paste, and then stirring, providing oxygen with a cold blast. The remainder of the cinder or scoria (carbon, etc.) was hammered out. Henry Cort refined the puddling process and made it a commercial success. In this way a good grade of malleable iron was made commercially available at an unprecedentedly low price. He and Purnell perfected the rolling mill, for saving labor and turning out bigger pieces than was possible by hammering, and also for making sheets. This revolutionized the steam boiler, the crudeness of which, coupled with the diffi-

culties of manufacture, had been one of the great handicaps to the commercial building of steam engines. An engine which must transport itself, together with its boiler, as in a steamship, must be exceptionally efficient for its weight. It is fair to say that the steamboat entered the realm of commercial feasibility about 1785. A number of attempts were immediately made, and within less than twenty-five years one of them succeeded. Eventually, the plates which the rolling mill made available at a moderate price were applied to the construction of iron, and later steel, ships. In fact, the first iron vessel, a canal boat, was built in 1787.

The next fundamental invention in steel-making, that of Sir Henry Bessemer, belongs to the second half of the nineteenth century. Of course, a multitude of refinements in the processes took place in the meantime. As we shall see when we take up that period, Bessemer's experiments were prompted by his discovery in connection with another invention that the vast development in machine technique had absurdly outrun the facilities for producing steel in the needed quantities and forms.

STEAM POWER AND MACHINES OF PRECISION

There was nothing new about the idea of using the expansive power of steam to produce lateral or rotary motion. Hero of Alexandria is known to have constructed a rotating steam toy as early as the second century B.C. Newcomen, whose pumping engine was patented in 1705, did not originate either the idea of a piston moving in a cylinder or that of a separate boiler for generating the steam. Denys Papin, a professor of physics in the German University of Marburg, had employed the first, and Thomas Savery the second. There are many other names and experiments in this connection which might be of antiquarian interest if space were available for taking them up. As noted above, Newcomen's invention answered very well the purpose for which it was designed, and was widely used for pumping out mines. The remains of a very large one still lie on a hill above the Arti-

bonite River in Haiti, where it was evidently installed late in the eighteenth century by some French planter for raising irrigation water. The Newcomen engine did not have any crank or produce rotary motion. Its chief source of power was the vacuum created under the piston by condensing steam with a jet of cold water. It required a good deal of attention and was extremely wasteful of fuel. Wastefulness, it should be observed, is a relative term. The device survived for decades, in competition with the other means of accomplishing the same ends, which is sufficient proof that it was practicable in terms of the fuel and labor supply at the time.

James Watt, an instrument-maker in the University of Glasgow, was given a model of the Newcomen engine to repair in 1763. His attention was drawn to the loss of heat, and hence of power, entailed in cooling the cylinder at every stroke to condense the steam. He thought of providing a separate condensing chamber. Later, he had the really revolutionary idea of eliminating the vacuum principle entirely, closing both ends of the cylinder, and applying steam pressure on each side of the piston alternately to force it back and forth. This would eliminate the waste of cooling at each stroke and enable the engine to be driven at a much higher speed than the Newcomen. The invention took on a crank and fly wheel, and finally a set of mechanically timed valves for admitting the steam.

The model was only the beginning of Watt's troubles, which throw a great deal of light on the nature of the mechanical revolution. It is especially interesting to compare Watt's facilities with those of Sir Henry Bessemer about three quarters of a century later. Even with our present-day mechanical engineering knowledge and shop equipment, it is often a long way from a small, soft-metal model, embodying the idea of a machine, to the full-sized, commercially practicable machine itself. Smeaton regarded the invention as "very remarkable," but his opinion was that it could "never be brought into general use." Though himself a distin-

guished inventor, and in the closest touch with the iron and steel business, the reason he gave for his judgment on the engine was the "difficulty of getting its parts manufactured with sufficient precision."

There were no cylinder-boring machines or lathes with tool-holders, and casting was still a crude process. Some of the cylinders made for Watt were an eighth of an inch wider at one end than at the other, and one eighteen inches in diameter was three eighths of an inch out of true. The rod which carried the thrust of the piston through one end of the cylinder had to have a stream-tight packing which would withstand both heat and soaking. Little was known about bearings capable of working continuously at the speed and pressure required for such parts as connecting rods. Lubrication was another vexing problem in the days before petroleum oils, specially adapted to heat and other peculiar conditions.

After the bankruptcy of one firm, Watt had the good fortune to get as a partner Matthew Boulton, whose financial backing and long experience in manufacturing and marketing mechanical toys were invaluable. The Newcomen engine was simpler and cheaper to build. To compete with it for pumping, the Watt and Boulton product had to be made both reliable and quite durable, in addition to its advantages as a fuel-saver. There is doubt as to just when the last Newcomen engine was constructed, but the one mentioned above in the French colony of Saint-Domingue (Haiti) was apparently not quite installed when the slave insurrection began in 1791.

On the other hand, in industries where rotary motion was required, Watt and Boulton had to compete with water power. Their greatest advantage lay in sites where other conditions of manufacture were favorable but where falling water was unavailable. Even here, it was sometimes possible to raise the water with a Newcomen engine, as at the Carron Works before 1775, letting it turn wheels afterward. That this competition was not severe is indicated by the

fact that in the year mentioned Smeaton attached his blowers directly to a Newcomen engine. Watt and Boulton added a governor which maintained a fairly even speed by regulating the flow of steam, increasing it when the pull of machinery began to check the speed and cutting it down when a lightening of the load produced the opposite effect. The Watt engine was supreme almost immediately where artificially generated power was necessary for turning shafts equipped with multiple belt wheels. Its first application to a cotton mill was made at Papplewick in 1785.

Where iron and coal deposits lay side by side, as in northern and central England, the Watt engine solved the problem of putting the power where it was needed. The impetus of the various new processes was felt more and more in the machine-building industry, especially after about 1800. Oftentimes it was of overwhelming advantage to place the machine shops far from natural water power, in order to get them near the other industries they served.

Until the appearance of the steam turbine about a century later, the development of the Watt engine was rather in the nature of refinements than of changes in general principle. The compound engine merely added one or more cylinders for using waste steam. Great increases in size and power occurred as better materials became available. Better design added to efficiency as engineering practice improved and fuel grew more expensive.

Steam- and water-driven machinery gave a new impetus to the mining of iron. Coal mining was also stimulated by the new demands for generating steam, and especially by the use of coke for smelting; but this increase was less immediate and impressive than was the case with iron. The use of the steam engine did not spread much to the Continent until after 1815. There iron was still quite generally smelted with charcoal, especially in Germany, where the type of ore gave that fuel an advantage. England's iron production had increased about 400 per cent between 1740 and 1788, amounting to about 68,000 tons in the latter year. A good deal of

this increase was due to the replacement of Swedish and other imported material. During the twenty years following 1788, another increase of about 300 per cent occurred. This was also in part a relative English advance rather than a general European one, the importation difficulties incident to the French wars being added to the factors already at work.

During the past few years there has been a growing realization of the exaggerations of earlier writers on the Industrial Revolution regarding the rate and amount of change involved. These overdramatizations and honest errors of judgment arose from a number of sources, one of which has been mentioned above: underestimation of the developments before 1750. Two other very general ones, each of which could be analyzed into several worthy of separate mention were: (1) other factors at work between about 1760 and 1840 besides the mechanization of industrial processes were slighted or ignored; and (2) new methods were assumed to have been predominant at much earlier periods than they actually were.

As to the first of these, we cannot ignore the fact that the social upheaval and war on the Continent from 1789 to 1815, coupled with England's insular position, was as unfavorable to the spread of her technical innovations abroad as it was stimulating to their development at home. Great Britain was able practically to cut the communications of her two chief commercial rivals with their colonies and other oversea markets, and to appropriate these, to some extent, for herself. With reference to France, this process did not begin with the French Revolution, but dated from 1763, or even earlier. Furthermore, it must not be forgotten that France lost the Napoleonic wars in the end, and with them the Belgian Netherlands, where some of the most intensive economic efforts of the First Empire had been concentrated; or that a new competitor, the United States, had in the meantime got on its feet commercially and started a little industrial revolution of its own. While the structure of Continental society was, on the whole, doubtless more favorable to economic change after 1815 than before 1789, a quarter of a

century was a good deal of time to lose at the propitious moment for hitting a hot iron. Finally, the long period of reaction and fear of radical change which bring to mind such names as that of Metternich and such arrangements as the Holy Alliance did not provide a healthy atmosphere for swift economic evolution. England was less affected than the Continent because earlier developments and the peace of 1815 left her with the trump cards already in her hand for the game which was, in reality, only just beginning.

This suggests the second capital error which has pervaded much of the literature on the Industrial Revolution, and still does some of it. Such inventions as the steam engine, the puddling process, the rolling mill, and the power-driven spinning machinery appeal to the imagination, and their long-time effects were tremendous; but they did not immediately transform even their own industries. Mechanical spinning was by no means triumphant by 1815, even in England. In the whole textile industry of Great Britain, not to mention that on the Continent, the putting-out system still produced most of the cloth. The financial strain of the wars had retarded the accumulation of industrial capital, and very little tendency toward financial concentration had yet appeared. England counted seven hundred and fifty country banks, but most of them were either private or run by very small companies. Some official recognition of the changing social structure had been made. Justices of the peace had lost the right to fix wages in 1813, and the regulation of apprenticeship had been abolished in the following year. These were war-time measures, and it is very hard to say just what rôle purely industrial motives played in them. Furnaces of the newer types had been multiplied, but England was still dotted with the shops of small artisans, makers of hardware, tools, etc.

It was in the period from 1815 to 1840 that power-driven machinery achieved its actual predominance in England. We can leave the details until later, but the production of coal may be mentioned here as a suggestive index. The estimated

figure of 56,000,000 tons for 1850 is about four times the output immediately after the peace of 1815. Sir Humphry Davy's safety lamp was introduced in 1815. Its enclosed flame was prevented from coming into contact with the gases in the mines. Machine design and construction materials became largely standardized in a single generation. A cylinder-boring device had appeared in 1785. Though materials had been turned for a very long time to give them perfect roundness, the lathe was developed into a practical machine for iron work at the end of the eighteenth century. Nasmyth and Maudsley are among the names associated with it. The prototype of the simpler present-day forms was made by Clement about 1818. Really efficient tools for working steel appeared gradually during the decades which followed. This feature of the Industrial Revolution is as lacking in popular or dramatic interest as it was vital to the changes as a whole.

Professor Usher gives a telling illustration of the revolutionary progress in machine work between about 1770 and 1840. At the earlier date, James Watt was struggling with the incredible crudities of smith-work which threatened with failure a machine which would not have been thought complicated at the later one. In 1843 Bessemer and his brothers-in-law set up a machine for making the bronze powder used in gilt lettering. The process was secret. Though the parts were machined in different shops, these men assembled them with a set of tools, and the machine actually ran for forty years without the necessity of anybody else entering the factory! What might very properly be called the "New Industrial Revolution" was impending, based upon machines of *precision*, which were to grow more and more automatic, and upon the vast new developments in steel-making with which Bessemer's name is associated.

TRANSPORTATION FACILITIES

The growth of industries, even under the putting-out system, in some regions to supply the needs of others, including

the movement to seaports for shipping abroad, was perforce accompanied by improvements in the means of transportation. Some account of this is necessary for even the most summary explanation of the Industrial Revolution in England. Especially in the great expansion and mechanization of industry after 1815, the increasing application of some of the great inventions to this field called attention to the fact that the making and movement of goods are only different aspects of the same general problem of territorial specialization.

A series of "turnpike acts" following 1663 marked the first determined effort to improve English highways. Individuals, corporations, and communities were authorized to build toll roads as commercial enterprises. The amount of progress achieved during the next century is a subject of dispute. From the standpoint of the gentleman traveler in a coach, there was evidently material for vociferous complaints. That the situation was as bad in the eyes of the trader, who was glad to be able to move his goods at all, even by packhorse, is not so certain. Macaulay's extravagant account has been bolstered up by scattered and quite unrepresentative quotations from Arthur Young, referring to the latter part of the eighteenth century, in attempts to prove that the roads were practically impassable, and remained so. There were well-surfaced and properly drained roads in France, where a modified form of Roman methods had long been followed, but scientific construction in England began with the work of Thomas Telford (1757–1834) and John Macadam (1756–1836).

Telford's method was similar to the French one. His foundation consisted of a series of heavy flagstones, laid side by side and bound together with pitch. The surface was formed by adding smaller stones, carefully selected and rolled smooth. This made a wonderful road, but the process was expensive. Macadam merely laid down a series of stone coatings, beginning with very coarse material at the bottom and shading off to a surface almost as fine as dust, then roll-

ing the road quite smooth and hard. Both Telford and Macadam laid great stress on the careful preparation of the roadbed, including provision for adequate drainage. The need became so pressing that central and local governments coöperated, and by 1850 England had an adequate network of main roads.

England's backwardness in canal-building was even more marked. France had a considerable system in 1750, and there had been other canals, used purely for transportation, elsewhere in northern Europe even in the Middle Ages. A notable example is the one connecting Lübeck with the Elbe, and thus with Hamburg. Doubtless the fact that the industries involving heavy hauling had developed late in England is related to this situation. She imported much of her iron from Sweden clear down to the Industrial Revolution, and worked it up within reach of the sea. Textile manufactures could get along very well with pack-trails as auxiliaries to the rivers and sea communications before the volume grew too large and machines began to come in. They needed this kind of a network, however. At this point we can be pardoned for a great deal of skepticism concerning the arguments that no considerable development occurred before 1750.

The first English canal was built to serve the comparatively new coal industry, following a parliamentary authorization in 1759. It was only seven miles long, connecting the Duke of Bridgewater's collieries at Worsley with Manchester. The builder, James Brindley, was not a trained engineer, and seems to have worked without any reference at all to Continental experience. Yet the difficult enterprise — involving locks, viaducts, tunnels, and extensive cuts — was successfully completed. The achievement was, after all, rather insignificant compared with the French Canal du Midi, one hundred and forty-eight miles in length, built under Louis XIV in the previous century. A considerable network of canals spread over England, Scotland, and Wales by 1840, when this form of transportation began to be overshadowed

by the railway. There were about three thousand miles of canals in England by that date, or more than three fourths of the present system. Of course, many of them have been greatly enlarged.

Where heavy hauling was necessary before the development of good roads or canals, the English sometimes employed the so-called "tramway." Two rows of timbers were laid down to serve as tracks, and, later, these were sometimes protected by strips of iron to prevent excessive wear. Eventually, as iron became cheaper, it tended to replace wood for track construction. Besides the private tramways of mine-owners, manufacturers, and merchants, some public ones were built and operated on the toll principle. The perfecting of the steam engine, and especially its success in the steamboat, led to many efforts to make a self-propelled vehicle. Some of the machines were designed to run on roads or pavements, others on tracks; but it was the adaptation to the tramway which succeeded. Richard Trevithick, William Hedley, and George Stephenson were among the pioneers.

Stephenson's first reasonably successful locomotive was completed in 1814. In 1825 the Stockton and Darlington Railway was opened, the first on which steam power was used. The speed was about ten miles per hour. Five years later, the Liverpool and Manchester line, thirty miles long, was completed, the first to inaugurate a passenger service. Stephenson's Rocket, one of its locomotives, performed the unheard-of feat of attaining a speed of twenty-nine miles an hour for a short distance. Twenty miles an hour was maintained on schedule in 1838, on the new line from London to Birmingham, a distance of one hundred and twelve miles. By 1855 there were over eight thousand miles of railroad in use in the United Kingdom. At first it was thought that the railroad could be operated in the simple manner of the turnpikes, being rented to any person who would pay the tolls. The necessities of management soon led to the operation of trains and the maintenance of the right-of-way by the same people, usually organized as a joint-stock company.

The earlier railways bore little resemblance to ours of the present day. In time, the various forms of track gave way to the flexible roadbed, with cross-ties laid in stone ballast. At first there were no telegraph lines. The tiny cars were built chiefly of wood, and such safety appliances as the air-brake and block-signal system were wanting. None of the great mechanical inventions of the period under discussion had vast and immediate effects — perhaps those of the railway were realized the quickest of all.

Although the idea of a steamboat was an obvious one after the appearance of Newcomen's engine in 1705, and many inventors worked to realize it in practice, a century went by before Fulton achieved undoubted commercial success. By 1785 the Watt engine was a perfected mechanism of proved worth, and Cort's improved rolling mill made available iron plates suitable for portable boilers and fire-boxes. We may say that the steamboat now became a certainty, to be realized sooner or later. John Fitch built one which actually carried passengers on the Delaware River for several months in 1790. It was mechanically crude, however, and he was too poor to perfect it — or even to use the best materials then known. The enterprise was a commercial failure. Perhaps it was still too early, a little more time being required to perfect the machinery specifically needed, and also machine work in general. For example, the slide rest for the lathe was invented between this venture and the next notable one.

Seventeen years after Fitch's steamboat, which ran but failed to make money, Robert Fulton applied adequate capital to a similar attempt and succeeded. First-rate builders were hired to construct a hull, and a Watt and Boulton engine was imported from England. The boat was christened the Clermont and launched on the Hudson River, where it made the voyage upstream from New York to Albany in 1807. Fulton and his partner, Livingston, secured a virtual monopoly of the traffic on American rivers, which they maintained for many years before the United States Supreme

Court declared it unconstitutional. The Savannah, a sailing ship with an auxiliary steam engine, crossed the Atlantic in 1819; but for many years longer the greatest use of steam vessels was on rivers or in other places where currents, close quarters, and wind-breaks made sailing difficult.

The first truly successful trans-Atlantic voyages made by steamships were those of the Sirius and Great Western, which crossed in eighteen and fifteen days, respectively, in 1838. A year later, the Cunard Line was established, the first of the great trans-Atlantic steamship companies. Ericsson perfected the screw-propeller about this time. In another quarter of a century, wooden construction was generally giving way to iron, and steel gradually replaced both. This transition became possible only after the Bessemer process came into use after the middle of the century.

THE NEW INDUSTRIAL REVOLUTION

(A) STEEL

The expression "New Industrial Revolution" is used here purely for convenience of description, in the hope that it may suggest the nature of a change and acceleration which took place in the process we have been following, especially after the middle of the nineteenth century. There is always some advantage in retaining the conventional boundaries of periods like the Industrial Revolution, which grows rather than diminishes as time and criticism put readers on their guard against over-sharp definitions and terms which imply too much. Looking at the three main aspects of the Industrial Revolution — the mechanical inventions, the rise of the factory system, and the accompanying triumph of industrial capitalism — 1850 is perhaps less objectionable as a closing date than 1840 or 1830. The extent of the transition was fairly clear by 1850, which boundary in time includes the more important early factory acts. Machine industry and industrial capitalism had also undergone a considerable development in Belgium by that time, and some of the important facts about the spread of the new order outside of

England were visible. Finally, while little shops were still numerous in England herself, most authorities would probably agree with Professor Sée that "large-scale capitalistic industry already played a preponderant rôle." The spread of the Industrial Revolution to the Continent of Europe and elsewhere, especially after 1850, was one of the big factors in bringing on the new phase of it. This aspect is more obvious in connection with organization than with the processes themselves, and it lends itself only to the detailed treatment which will be undertaken in later chapters.

A new era in machinery was opened by Bessemer's process, which made good steel available in huge quantities, at a greatly reduced cost. Steel is one of the most vital keys to the new industrial developments of the second half of the nineteenth century. Much stress has been laid upon the larger castings, bars, rods, plates, and rails, together with their effects on railways, factory machinery, structural materials, and ships. On the other hand, refinements in smaller parts and tools made practicable such machines as automatic lathes, which could turn out innumerable pieces exactly alike. This eliminated most of the labor of fitting and made possible the assembling even of complicated devices by a series of workmen, each performing a simple operation with a few tools on an accurate time schedule. Harvesting machines went through the revolutionary transition in methods of manufacture, and the cheap automobile is the classic example of the new technique. At the heart of the change lay the improvements in the steel industry, leading to precision in the moving parts of machines, as well as to amazingly durable fine tools for cutting metals. The uniformity of product made possible by automatic machines has already produced results in many fields suggestive of the effects of the printing press in its field.

Sir Henry Bessemer was already an inventor of note, and had paid some attention to the Cort process for making malleable iron, when his attention was forcibly drawn to the scarcity and cost of good steel. A projectile on which he was

working just after 1850 stood the tests made by military people; but it required a high muzzle velocity and hence a heavy charge of powder in the cannon which fired it. Assured that the invention was impracticable because of the cost of making guns light and strong enough to handle it, he turned his attention to correcting this condition in the steel industry. Neither his many trials nor the technical details of his new converter belong to this narrative. The main problem which he solved was to get the ore hot enough to burn out the silicon and substantially all the carbon, whereupon steel could be made by adding the desired amount of carbon. Aided by a hot blast, sufficient heat was generated in the converter which he designed to set up internal combustion in the cast or pig iron. His process reduced the cost of steel to about thirty-five dollars a ton, or less than a seventh of its former price.

It was found that Bessemer's process would not work with ores which contained more than a very small percentage of phosphorus. This difficulty was finally overcome by what is called the Siemens-Martin or open-hearth process. It was in use before 1870, but was improved later by Thomas, Gilchrist, and others. Its outstanding feature is a basic limestone lining which absorbs the phosphorus from the molten iron. Both of the above processes are still in use. Sometimes they are combined in what is known as the "duplex" process, in which the iron is conveyed directly from the blast furnace to a Bessemer converter, and from it to the smaller open-hearth furnaces. Of late years, electric furnaces have been widely used, especially for quality production of the finer steels.

Perhaps the most impressive change wrought in the physical appearance of the modern city by cheap steel is in the buildings themselves. The so-called "sky-scraper" would be impossible without its frame of structural steel. Even the floors of the better buildings are made of reinforced concrete, covered with wood if necessary. Factories, railway terminals, and bridges show the same influence. Many of

the accessory developments are familiar to any one who has watched the erection of a modern factory, office building, or apartment house: such as power riveters, hoisting machinery, steam heating systems, and ponderous sheet-metal façades made to resemble stone work.

The ships which were considered huge before 1850 would have been small at the end of the century, and they would seem even smaller to-day. The Great Western of 1838 was too large to be practicable: 236 feet long, drawing about 1340 tons and with a horse power of 440. Steel construction has so increased the possibilities for size and speed that we hardly know what the limits are. The Majestic and Leviathan, sister ships taken by the British and Americans from the Germans, are over 900 feet long, develop about 100,000 horse power, and draw over 58,000 tons. They cross the Atlantic on a six-day schedule, which is nearly two days longer than the record time, whereas the Great Western took fifteen. Since the construction of the Lusitania and Mauretania in 1907, the steam turbine has come into favor for the larger vessels, instead of the reciprocating engine. It would have been useless to invent the turbine in 1850, because of the expense of turning out its myriad of parts by the methods then in vogue.

THE NEW INDUSTRIAL REVOLUTION

(B) NEW SOURCES OF POWER

The coal industry itself, including mining and distribution by both land and sea, has undergone what might well be called a mechanical revolution since 1850. During the last quarter of the nineteenth century, the petroleum industry rose to first rank. Since then, the emphasis has passed from illuminating oil, with lubricants always important, to motor fuel. Certain grades of fuel oil have been found cheaper in the long run than coal for use on the ocean liners mentioned above. Because of the greater cruising range and the smaller crews required — economizing in room for quarters — all the great navies have been changing rapidly from coal to oil.

Railways, especially in oil-producing countries, have also discarded coal-burning locomotives in many cases. The growth in the use of oil for generating steam was not a primary development, however, but incidental to the rising demand for the more highly refined petroleum products for internal-combustion motors. As the consumption of gasoline has increased, a growing supply of the residual products of petroleum has been thrown on the market, to be absorbed at a price which can compete with that of other fuel. Oil is relatively easy and cheap to handle, whether by pipe-lines and tanks on land or by tank steamers and lighters on the water.

Otto and Langen put on the market the first practical gas engine during the decade before 1870. This type of motor grew up with the petroleum industry, aided from time to time by developments in machine technique and scientific knowledge. For example, the wide use of bicycles helped to evolve the pneumatic rubber tire, the chain transmission, and the wire wheel, with its power-economizing ball bearings, all of which were useful in the early experiments with automobiles. Ignition troubles seemed almost insurmountable until the development of electrical appliances pointed the way to the solution. Such a growth is cumulative: use pointing out defects in construction and design, the correction of these leading to wider use, this finally to the cheapening of production, and so on.

Before 1900, Dr. Rudolph Diesel, a German scientist, had invented and considerably perfected the type of internal-combustion engine which was to prove best adapted to use in ships. It takes a heavier and cheaper fuel than gasoline, which is sprayed into the cylinders and ignited by the heat resulting from compression. The Diesel engine has proved highly practicable for small freighters, especially those making long voyages to out-of-the-way places. Worries about coaling stations are eliminated, the cruising range is very great, and a small crew suffices. The expense of keeping up steam is avoided in case of long waits in rough roadsteads or badly equipped harbors. Most of the world's freight on

the seas, it should be noted, is still carried by coal-burning steamers of considerably less than 10,000 tons, without fixed schedules — that is, they are not "liners."

Especially since the World War, air traffic has undergone a prodigious development in Europe. The figures mount into the millions of pounds of merchandise and the hundreds of thousands of passengers. They would be unimpressive relative to those for railways, motor cars, and ships. Without such a comparison, their meaning would be quite uncertain. A critical analysis could not yet be made anyway, for the industry is so new that nobody can tell to what extent it is a competitor, and in what measure a mere auxiliary, of the older system. For the airplane to become a really first-rate factor in European transportation, many technical improvements would have to be made: in the machines themselves, in weather prediction, in the number and equipment of landing-fields, connections of these with the cities, etc. There are regular passenger and express services between the principal capitals; which by no means include all the important cities. Where the distance is considerable, the load light, and speed the all-important consideration, the airways promise to be supreme, for speed does not multiply the cost and danger as it does on the ground.

Germany was supposedly crippled by the peace treaty, but she has forged ahead of all her rivals — largely because the military restrictions limited her to the purely commercial types of aircraft, while France, Great Britain, and Italy were left free to aim at two birds with one stone. The factor of possible use in war inevitably stands in the way of much needed international regulation. On the other hand, a strikingly large fraction of the present routes cross frontiers. Governments have cut red tape to facilitate this, hoping to encourage the industry, with war needs in the backs of their minds. If railways, automobiles, and boats could offer the same facilities for non-stop runs, with efficient inspections at the terminals only, it is conceivable that airplanes might lose some business which they now get.

So far, the motor car is a much more serious competitor of the railway. Its mobility gives it a great advantage where good roads and pavements already exist, since the load can often complete its journey without being shifted, instead of stopping at fixed stations. It has played an important rôle in the newer expansion of Europe. Instead of requiring a big initial outlay, it can develop traffic considerably and begin to tap its income on relatively cheap roads with fairly steep grades and improvised bridges. This is especially true where the climate is dry during the seasons when the traffic is heaviest — as, for example, in North Africa.

Detailed mention will be made in later chapters of the renewal of interest in water power, especially in those countries, like Italy, Switzerland, Sweden, and France, where the coal supply is inadequate and power sites are plentiful. The newer developments are along quite different lines from the old. Nature has placed a large percentage of the good power sites in rough or actually mountainous country, where manufactures would encounter transportation difficulties. The railway furnished only a partial solution. A revolution has taken place with the perfection of the electric dynamo and motor, which permit of generating the power in an easily transmissible form and using it many miles away. General plans for electrifying the railways have appeared in a number of European countries. These have not been limited to places where water power is plentiful and coal scarce. Many of them contemplate the generation of the electric current by burning coal in steam engines.

The electric motor is an illustration of the fact that the increasing mechanization of industry since the middle of the eighteenth century has not tended uniformly toward concentration. Standardization in a myriad of things — such as machine threads, sockets, drills, wire, wheels and tires, spool cotton, the collar sizes in clothing, and so on almost infinitely, including the vast numbers of complicated devices like sewing machines, phonographs, and automobiles made by single manufacturers, so nearly exactly alike that the parts

will interchange — has created new fields for narrow specialists. Some of these make parts for the manufacturers themselves. Others sell them to the consumers direct, either to replace worn or broken parts or as accessories, to perform some special service. Discs for phonographs, blades, strops or stropping devices for safety razors, and the multiplicity of attachments for motor cars are examples. No specialty is so small that its maker cannot install an electric motor and buy power as he uses it. Even big factories have in many cases abolished overhead shafting, which keeps on turning even at the moments when half the machines are idle. The electric dynamo and motor are back of our street railway systems, including subways and elevated tracks and the elevators in our tall buildings. These illustrations will at once suggest many more of the devices impossible in 1850.

While it is not a power device, the electric light has been constantly associated with the above developments. The candle and the crude lamp burning sperm or whale oil were practically supreme in the field of artificial lighting in 1850. Cities began to install gas plants on a considerable scale about that time. The use of kerosene became general about twenty-five years later. A practicable arc light had already appeared, and the incandescent bulb was invented shortly afterward. The economic significance of electric lighting, especially as perfected since 1900, can hardly be estimated. All the older solutions were mere makeshifts in comparison. Imagine that it is only four-thirty in a late November afternoon in northern France. Night will have fallen a half-hour ago, so far as close work is concerned. Tens of thousands of machines in the Paris region alone are going on just the same under clear, soft lights, which appear at the snap of a switch. Some of them will change shifts a little later, and run all night. For two months yet, the days will average shorter than this one. A steamer is docking just now in Cherbourg, with a trainload of passengers and mail for Paris, as we knew this morning from a wireless message. She is a blaze of light. So are the docks and the custom house, and so will be

the train. A translation of this casual fragment of a situation into the terms of 1850 will bring out a contrast which grows more striking as we accompany the passengers into their taxicabs in Paris and start off at a miraculous pace to cover more of the city in an hour than their grandfathers could have done in a day.

The mention of wireless telegraphy reminds us that electricity has revolutionized life in other ways since 1850. At that date, the telegraph was still in its earliest infancy. No ocean cable had been laid. A quarter of a century was yet to elapse before the invention of the telephone. In another quarter of a century, the wireless telegraph was still a scientific plaything, but telephones were being installed in villages and farmhouses. The wireless telephone was never a commercial success until after the World War; but in the meantime, intercommunication at sea had been revolutionized by the wireless telegraph.

SUMMARY

It is impossible entirely to avoid dramatizing the Industrial Revolution. The term itself is dramatic. But we can keep clear of some of the most misleading conceptions of the earlier dramatists, which have been pointed out by the later ones. This way of viewing the events concerned has done good, for it has enticed people to look at them with some imagination, and even critical judgment, a little of either being better than none. The Industrial Revolution did not burst upon a stereotyped and unsuspecting world in 1750, 1770, or at any other time. Professor Ashley's characterization of it as a "rapid and irresistible evolution" is quite strong enough to suit the critical mind. Too much attention has been paid to a few textile inventions. Often the steam engine itself has been dealt with as though it were a mere convenience, produced in the nick of time for turning cotton mills. This has led to a neglect of the general development of the machine technique which is so typical of contemporary industry. In this brief chapter we have attempted roughly

to sketch what might be called the mechanical revolution, not as a story or drama complete in itself, but in such a way as to furnish the essential background against which the changes in organization must be seen. To avoid scattering a supposed "revolution" over a century and a half on the one hand, and thus destroying all sense of time, or giving the impression, on the other hand, that the process was somehow worked out and finished about 1830, 1840, or 1850, a summary of a new phase has been added, traced in even less detail than the conventional one. For example, no mention at all has been made of the typewriter, or of the newer printing presses which turn out our daily, weekly, and monthly advertising with a fringe of news or fiction to aid in attracting the attention. Whether either of these movements should be called a revolution is a question, but they have to be called something. Anybody who will use a little informed imagination in comparing the appearance of, and the activities and the goods consumed in, London, Paris, or New York to-day with the same picture in 1850 cannot be much offended by the term "revolution." If he will then perform the more difficult operation of comparing the actual, visible facts of life in 1850 with those of a century earlier, he will feel much the same way. Those people with appetite for culture who have understandingly read good contemporary literature produced by the two earlier periods have an advantage in making these solid, humdrum comparisons which cannot be quite gained in any other way.

SUGGESTIONS FOR FURTHER READING

The omission of a number of works often cited perhaps calls for a word of explanation. Several of them will be found in the list at the close of the next chapter, on "The Factory System." By the time both are read, the practical reason for this division should be clear. Others of these works are not given because their historical point of view is so much opposed to that of the newer and more detailed studies that it would be confusing. For this point see Usher, *Industrial History of England*, p. 249, and the review of Dr. Knowles's book (cited below) by Professor Clapham in the *Economic Journal*, vol. xxxi, p. 229. The present chapter and the next being intended in part as an introduction to the more detailed ones which

follow, it has been thought advisable to avoid both crowding and repetition by deferring the treatment of many facts until later. This has also postponed the mention of some books.

*Ashton, T. S.: *Iron and Steel in the Industrial Revolution.*
Baines, E.: *History of the Cotton Manufacture in Great Britain.* Old, but still useful.
Ballot, Ch.: *Introduction du machinisme dans l'industrie française.*
Bessemer, Sir H.: *An Autobiography.*
Bowden, W.: *Industrial Society in England towards the End of the Eighteenth Century.*
Boyd, R. N.: *Coal Pits and Pitmen,* chaps. I–V.
Briggs, M.: *Economic History of England,* pp. 93–140.
Cantrill, T. C.: *Coal Mining,* chaps. I, V–X.
*Chapman, S. J.: *The Lancashire Cotton Industry,* chaps. I–VII.
Clapham, J. H.: *The Woollen and Worsted Industries,* chap. IV.
——— *An Economic History of Modern Britain,* chaps. I–III, V, VI.
Cleveland-Stevens, E.: *English Railways: Their Development and their Relation to the State,* chaps. I–V.
Cunningham, W.: *Growth of English Industry and Commerce in Modern Times,* part I, chap. XV; part II, chaps. I, II. (Also included in the partial reprint entitled *The Industrial Revolution.*)
——— *British Industries,* pp. 173–95.
*Curtler, W. H. R.: *A Short History of English Agriculture,* chaps. XIV–XIX.
*Daniels, G. W.: *The Early English Cotton Industry.* The Introduction, by the late George Unwin, is especially illuminating.
Forbes, U. A., and Ashford, W. H. R.: *Our Waterways,* chaps. VII, VIII.
Galloway, R. L.: *History of Coal Mining in Great Britain.*
*Griffith, G. T.: *Population Problems of the Age of Malthus.*
*Halévy, E.: *A History of the English People in 1815,* book II, chap. II.
*Hamilton, H.: *The English Brass and Copper Industries to 1880,* chaps. X–XII.
Hammond, J. L. and B.: *The Rise of Modern Industry,* part II.
*Heaton, H.: *Yorkshire Woollen and Worsted Industries,* chaps. VIII–XII.
Jackman, W. T.: *The Development of Transportation in Modern England.* 2 vols.
*Jeans, W. T.: *The Creators of the Age of Steel.*
Kirkaldy, A. W., and Evans, A. D.: *The History and Economics of Transport,* chaps. I–III.
Knowles, L. C. A.: *The Industrial and Commercial Revolutions in Great Britain during the Nineteenth Century,* 2d edition, 1922.
Lipson, E.: *History of the Woollen and Worsted Industries.*
*Lord, J.: *Capital and Steam Power.*
*Mantoux, P.: *La Révolution industrielle au xviii^e siècle.*
Marshall, L. C.: *Readings in Industrial Society,* chap. VII.
*Meredith, H. O.: *Outlines of the Economic History of England,* book IV, chaps. I, II.
Moffit, L. W.: *England on the Eve of the Industrial Revolution,* part II.

Moss, K. N., and others: *Historical Review of Coal Mining*, chaps. I–VII. Published for the Mining Association of Great Britain.
Pratt, E. A.: *A History of Inland Transport and Communication in England*, chaps. X–XVIII.
Preble, G. H.: *History of Steam Navigation*, chaps. I–III.
Prothero, R. E. (Lord Ernle): *English Farming, Past and Present*, chaps. VII–XVI.
Smart, W.: *Economic Annals of the Nineteenth Century: 1801–1820*, chap. I.
Smiles, S.: *Lives of Boulton and Watt.*
——— *Lives of the Engineers.*
Thurston, R. H.: *History of the Growth of the Steam Engine*, chaps. I–VI.
Unwin, G., Hulme, A., and Taylor, G.: *Samuel Oldknow and the Arkwrights.*
*Usher, A. P.: *Industrial History of England*, chaps. X–XIII.
Webb, S. and B.: *English Local Government: The Story of the King's Highway*, chaps. V–VIII.
Williams, J. B.: *A Guide to Some Aspects of English Social History, 1750–1850.*
Wood, H. T.: *Industrial England in the Eighteenth Century.*

CHAPTER IV

THE FACTORY SYSTEM

QUESTION OF INTERPRETATION

How far back in human history "factories" can be traced is a moot question, the answer depending largely upon how the word "factory" is defined. The controversies which have arisen about it do not concern us very much here, as we are dealing with the modern factory *system*, which did not exist before the eighteenth century, and was still in its infancy, even in England, at the opening of the nineteenth. If we define a factory as an industrial enterprise in which at least one person is completely specialized to management, control, or direction, some examples could be found in both ancient and medieval times. Admitting the logic of this common definition, the word "factory" has nevertheless been avoided in the earlier part of this treatise, simply because it invites a comparison with present-day conditions which might lead to confusion. It seemed just as logical, and less dangerous to clear thought, to call the earlier concentrations merely central shops.

The picture of a factory which comes into our minds when the word is used includes automatic or semi-automatic machines driven by power. Even if only a single model of one article is manufactured, production will be broken up into processes, and these into tasks. Take the very simple case of a small heating stove, made of sheet iron with cast iron top, doors, grate, and base. Cutting, bending, and possibly stamping the sheet iron will be entirely separate from the cast work. Besides the larger castings, there will be a number of small ones, such as a shaker for the grate, and probably sliding or revolving ventilators for the doors. A good deal of drilling, assembling, and finishing must be done after these pieces are provided.

Leaving mechanical details aside at this point, we have already been thinking of the workmen, each with his own task, paid by the day or by the piece. They must be regimented as in no earlier manufacturing system, so that the power and the expensive time of the supervising personnel may not be wasted, and one process not lag behind the others. Some of the most distinctive features of this picture arise from the presence of relatively expensive machinery, representing an initial *investment* which will *pay* only if the plant keeps up a fairly steady output of salable products. Each part, such as a stove door, is just like the last and the next. For example, the workman operating the specially constructed and adjusted drill for making the holes in the door hinges never has to stop and think. He does not require a seven-year apprenticeship to learn the process. A day or two will probably suffice for "breaking him in," especially as the one highly skilled operation of sharpening his drill bits is performed in the machine shop in another part of the factory.

This reference to the drills brings up another aspect of the contemporary factory system. The small revolving tool which carries the cutting edge of the drilling machine is not made by the man who keeps it in order, but is produced in large quantities and standard sizes by another concern, being purchased in the market by the various manufacturers and repair men who use it. Neither does the stove manufacturer make his own bolts and nuts. These are made and marketed in standard sizes, with standard threads. Thus a thousand bolts of one make could be ordered which would fit the holes made by the corresponding standard size of drill, regardless of manufacture, and take any one of a thousand nuts produced by a third maker. This illustration is meant only to suggest the commercial organization back of the system as a whole, which is assumed when it is not formally considered in looking at the organization and division of labor in the particular factory. Our stove manufacturer certainly would not make his own sheet iron, and might even order some of his castings outside. Similarly, the automobile factory does

not make its tires. Usually it buys its wheels, bearings, electric equipment, etc. — often its bodies, and not infrequently even its engines. This mere glance from a factory window at the industrial and marketing organization outside suggests also that the disposal of finished products is quite a different process from what it was in the eighteenth century.

All this is by way of labeling the items which appear before the twentieth-century mind at the mention of a factory, in order to be sure that they do not follow us too closely and cut off the view, when we move a hundred years or more away from them to look at a simpler order. The factory *system* is evidently not merely the product of a series of mechanical inventions, any more than it is of a number of other factors. To state that the inventions made it possible calls for the retort that they themselves became practicable only at certain points in the growth of capitalism and the division of labor. But capitalism may be commercial, industrial, financial, or all of these combined. Furthermore, the capital may belong to one person or partnership, it may be borrowed by such a one from financial concerns (as was commonly the case in the early cotton mills), or it may be jointly subscribed by people who hold the stock and participate in the direction of the enterprise. In dealing with the rise of capitalism, we should always try to keep our minds clear as to whether we mean the accumulation of capital, the growth of those forms of organization which were to triumph later, or something else.

Finally, the phrase "the division of labor" needs to be employed with more than the usual caution and exactitude. Increasing specialization may lead to the breaking-up of an industry into special trades, as in the case of the wool weavers of medieval Florence. The rise of the putting-out system and its spread to the country in Flanders, England, and elsewhere in northern Europe much later was another example of actual dispersion accompanying a "division of labor." On the other hand, the factory system is characterized by a concentration of personnel, by dividing up the tasks rather than the trades. A marked tendency to concentrate the work-

ers and the processes was visible before the appearance of power machinery. Although the mechanical inventions stimulated this, if either was a primary "cause," we must pick the one which appeared first. Territorial specialization is also a division of labor, and usually signifies that others are taking place.

Two other influences in the rise of the factory system may serve to feed a healthy skepticism concerning this word "cause" and a type of historical reasoning which it too often represents. Professor Sombart is quite right in emphasizing the importance of the vast increase of the European population in bringing about the final triumph of modern capitalism. This rise dated at least from the beginning of modern times, and was greatly accelerated after the middle of the nineteenth century. It is another factor which antedated the Industrial Revolution, and doubtless helped to bring it on, but was reinforced in its turn by the new order.

The case is similar to the application of capitalism to agriculture, a phase of which, in England, is called the enclosure movement. Even in France, where the decay of the old régime was more retarded than in England, it was noted that the putting-out system of cloth manufacture flourished particularly in those regions where dispossessed peasants were numerous. This system had already outgrown the stage of increasing diffusion before the onset of the Industrial Revolution, and had begun a concentration which would, no doubt, have been much less complete but for the added incentive of the new machinery. Once this incentive had appeared, the developing factory system in its turn reacted upon the enclosure movement.

We are now in a position to see the source of a good deal of the overdramatization of the Industrial Revolution. The term itself was popularized by Blanqui, who used it in 1837.[1] This was in the midst of a series of factory acts which recognized a new order of things and attempted to make some

[1] Cf. Anna Bezanson: "The Early Use of the Term Industrial Revolution," in *Quarterly Journal of Economics*, vol. xxxvi, pp. 343 ff.

necessary adjustments. Not only did the factory workers obviously need protection, but the hand weavers outside were suffering even more from low wages and poor living conditions. Looking at the factory system at that stage in its growth, its most important feature seemed to be the machinery. Riots in which machines were broken up had taken place in England, notably in 1811–12 and 1835, but others earlier and later. They seem to have been entirely suspended in France from 1789 to 1815, but appeared again after the peace, though never to the same extent as in England.

One school of writers on the Industrial Revolution has always defined it in such mechanical terms that it appears as the "cause" of the factory system. The two are, of course, as inseparable as a succession of hens and eggs, and the injection of the idea of "cause" is merely a source of confusion in thought. This highly mechanical explanation of the rise of the factory system is still with us in the well-thumbed works of many writers.[1]

There are two other main types of special explanation of the economic changes of the past century and three quarters. The one mentioned above owes much of its logical completeness to the emphasis placed by the others upon the machines. In these latter, however, particular stress is laid upon enterprise and organization. Both grew up amid the actual, visible benefits and evils of the new order in a period of fairly rapid change. They had an intellectual atmosphere also, which is somewhat foreign to us after the passage of years. At the close of the present chapter, we shall briefly take up some of the more formal doctrines in their relationship to the process of economic development. For the present, we may remind ourselves of the wave of individualism and impatience at state regulation which swept over western Europe at the end of the eighteenth century, and of the

[1] Professor Usher singles out Gibbins by way of illustration. Another example is Charles Beard's delightfully written book on the Industrial Revolution, which still has a wide circulation, though it was a product of his youth and does not coincide with his mature views.

French Revolutionary enthusiasm for "liberty, equality, fraternity"; that Adam Smith lived and had followers; and that the early nineteenth century, like every other period, had its own way of thinking about human society. Ours, perhaps more than many of us realize, tries to follow a type of reasoning which biological science has found useful in its field during the past fifty years more or less. A century ago, thought about social or economic processes was less likely to follow the methods of laboratory scientists than those of the current philosophers, among whom Hegel was extremely prominent. The idea of "evolution" — perhaps "progress" would be a better word — was present, but it tended to picture history as moving in some "moral" or "spiritual" sense toward human freedom and higher types of organization. This would be no place to attempt any explanation of the importance then attached to the logical completeness of systems of thought, or to give any account of the correspondence deemed to exist between the "thought process" or idea and the real world or object.

Liberty became identified in many minds with extreme individualism, which, carried far enough, becomes anarchism. Reacting from the restrictions of the older mercantile policies, the doctrine of *laissez-faire* or economic liberty went pretty far in the other direction. The suggestive name "Economic Liberalism" has been given to a school of thought from which sprang the second of our three general types of interpretation of the Industrial Revolution. All state interference with private enterprise, including regulation by tariffs, was condemned on principle. This attitude was often tempered by a humanitarianism which admitted at least a temporary necessity for some public interference in economic matters, for example in the passage of factory acts to protect women and children. Nevertheless, a certain moral conviction remained that somehow the course of evolution would vindicate economic freedom and individualism and the temporary wrinkles would be smoothed out. The Industrial Revolution was an obvious subject for economic sermons of

this type, showing how the processes of history had been leading inevitably to *laissez-faire*. Toynbee's *Lectures on the Industrial Revolution of the Eighteenth Century in England* form one of our contacts with a late and intellectually respectable version of this view, which also appealed to Cunningham, himself originally a cleric.

A third and much more variegated type of explanation was given great vogue by Karl Marx, the German socialist, though the real kernel of it is held by many who dissent entirely from his general economic philosophy. That kernel is the interpretation of the Industrial Revolution as a phase of the rise of modern capitalism. Marx criticized Hegel [1] for assuming a sort of mystical directing spirit back of history, and trying to get in touch with it through the processes of his own mind rather than by careful observation of historical reality. Ostensibly, Marx's own system was founded firmly and solely on such observation, and this contention was made the basis for his claim to have introduced a new "materialistic conception of history." Even those who suspect that he found what he was looking for can hardly deny that the method of procedure suggested is sound if carefully and judiciously pursued. Marx's materialistic conception of history, however, included much more than practical directions for historical research. Except for the moral or "spiritual" bias, he kept most of Hegel's elaborate scheme of reasoning by piling up negations or antitheses. Whatever his motives in picking the rise of modern capitalism as the avenue for approaching and traversing the Industrial Revolution, and however wrong his conclusions may have been, the method has been exceptionally fruitful as pursued by more recent scholars. This is not because of its merits as a special explanation, but largely because, if conscientiously and thoroughly followed, it partakes less of that nature than the others. Historical perspective becomes possible,

[1] In the preface to the second edition of *Das Kapital*. The attempt to reform Hegel's "dialectic," and hence the germ of the "materialistic conception of history," dated from Marx's *Einleitung zur Kritik der Hegelschen Rechtsphilosophie*, published in 1843.

and the absurd detachment of the Industrial Revolution from the conditions which led up to it is partially avoided.

Later writers like Sombart and Mantoux owe Marx more than is apparent at a glance. For if the development of business organization is to be the main theme, there is no need to begin the Industrial Revolution in midair with the invention of a flying shuttle, a spinning jenny, or a steam engine. If any of these, or all of them, had actually "caused" the appearance of the factory system, it would still be necessary to explain the "cause" of the cause, or admit that the account was very unsatisfactory as history. On the contrary, to any one who has read a little about the earlier period of European expansion, it is clear that capitalism had a long course of development before it became predominantly industrial, and that the transition was not sudden.

The historical explanation of the rise of industrial capitalism which has steadily gained ground in the past few years is not that of Marx, though it owes him a good deal for its central idea. It deals with the rise, and later the decline, of *laissez-faire* individualism merely as facts to be noted. While the effects of the mechanical inventions are not neglected, neither is the perfecting of machine processes torn from its setting of organization and turned into a "moving finger" which writes history by itself. In other words, this explanation is multiple or eclectic, not special. If it chooses one path rather than another for threading its way through the maze of events, it is merely because that one seems to be the most convenient and on the whole to offer the best view.

THE RISE OF INDUSTRIAL CAPITALISM

The distinction between extractive and other industries is artificial from the standpoint of organization in many cases, and to be respected largely because of its age. For example, a coal mine is not called a factory, though it may be run largely by machinery. As already noted, because of the required outlay of capital many mines became joint-stock enterprises at a period when most of the cotton mills were

not. This factor of necessarily large initial investment and heavy overhead expense in the rise of industrial capitalism could not exert its full force in the textile trades until power-driven machinery had achieved a crushing superiority in efficiency, threatening first the profits and then the livelihood of competitors. Neither the flying shuttle nor the spinning jenny forced the concentration into factories. Both were hand devices, as useful in rural as in urban industries. This was not true of either the water frame or the mule. Even these did not affect the wool industry much at the outset. Its general concentration took place decades later, especially after the development of commercially successful power looms.

Marx laid a good deal of stress upon the rôle of the manufacturer in the rise of capitalism — far too much, it is now conceded.[1] Charles Ballot has made it clear that Colbert's favors to royal and privileged manufacturers did not lead to much industrial concentration. Even at this time there was a recognized distinction between the craft master in the Lyons silk industry and the merchant master who put out his work. The particular year for which we have the text of a regulation as proof is 1667. In 1744 — nearly a century later — the salaried dependence of the craftsmen upon the merchants was legalized. As in the case of cotton, an expanding market gave the advantage to the man who could keep

[1] Though Marx's stress on the rôle of developing capitalism was in a sense a spring-board for others who have done much toward bringing up the facts and arranging them into a more realistic historical explanation of modern industrialism, his own conception of the process was largely wrong. Labor, he thought, had to free itself from its outgrown shell of medieval restrictions; but the disintegration of the system liberated forces which were seized upon by capitalists to place new restrictions upon laborers, aided by the States. The concentration of capital in the nineteenth century was, to his mind, proof that capitalism was itself approaching a break-up, freeing new forces likewise created by labor. He did not seem to appreciate that commercial capitalism was also a part of the organization which outgrew its medieval shell, and that the early modern restrictions were not only the lineal descendants of the medieval ones, but were actually less rigid on the whole. Neither did Marx recognize the vast difference between early modern commercial capitalism and the maturing industrial capitalism of his own time. History was thus dramatized by slurring over a multitude of small, gradual transitions in order to collect them into a couple of big, revolutionary ones — one of them still in the future.

in touch with it and the one who could put up the required capital. Convenience tended to bring these two together in the same person. The silk market was against the craftsman in another way. Fluctuations in style made it increasingly difficult for the man of small capital to assume the risks.

The first considerable application of power-driven machines to the textile industry was in the silk throwing mills for taking the fiber from the cocoons. Cooke-Taylor quotes a statement that one John Lombe brought this device to England from Italy about 1715, building himself a factory an eighth of a mile in length on the banks of the Derwent which turned out over three million yards of organzine a day. Mechanically, silk lent itself, like cotton, to machine processes; but the market for it did not prove capable of any such extension. Perhaps it would be more realistic to state that the supply of raw silk was more definitely limited and required more labor to get; that the price was, therefore, necessarily too high to compete with cotton in quantity production, and that it was in this field that machinery was to be supreme. The French Revolution also hurt the great centers of the silk industry, like Lyons.

Arkwright's first water wheel of 1770 marked the beginning of power machinery as an influence in concentrating the cotton industry. Power devices had entered glass and paper manufacturing in a small way, and Smeaton's cylinder blower, together with coke firing, had begun its centralizing pressure upon the iron business. Most of the concentration which took place before 1770 was evidently for other reasons. A few big shops have attracted a good deal of attention. Professor Sée tells us that over half of the cloth manufacture of Reims was carried on in this way, and still more in Louviers. The main reasons were to save transportation costs and facilitate supervision. These cases of concentration were not caused by power machinery, nor did they immediately lead to its use. The organizers were still primarily merchant capitalists. The putting-out system was far more general, and even the gild hierarchies survived in some places.

Certain technical peculiarities of the cotton goods industry, which manifested themselves under the putting-out system, had a great influence upon the swift growth of capitalistic methods. These peculiarities themselves, as well as the form of organization which they stimulated, tended to produce concentration, and the whole situation as thus shaped was favorable to the advent of power machinery. The printing, bleaching, and drying of cotton goods for the actual market as it then existed required a great deal of space and fairly expensive equipment. Furthermore, these finishing operations called for considerable stocks of materials, including cloths and coloring matter. Back of it all was an increasing volume and diversity of demand which kept splitting up the skilled operations and creating new ones.

This growth called for more and more capital, which was applied at the end rather than at the beginning of the long series of processes; but this finishing end of the series was also the one nearest the market. The result was a quasi-commercial, quasi-industrial capitalism — a sort of transition stage. For at least a century before 1770, urban society had been increasingly dividing itself into laborers, wage-earners, or proletarians on the one hand, and on the other an employing class of capitalists for which they worked. As industry grew in importance relative to commerce, and concentration set in, this tendency increased, but it was no more a simple product of power machines than the machines were of it.

The introduction of water frame and mule spinning gradually upset the business organization as well as the technique of cotton manufacturing in a curious way. Instead of being at the marketing end of the series of processes, spinning was almost at the opposite end. Pirenne [1] has pointed out that the new industrial capitalists who grew up with this formerly

[1] "Stages in the Social History of Capitalism," *American Historical Review*, April, 1914, vol. xix. See also George Unwin: *Samuel Oldknow and the Arkwrights*. Charles Ballot, in his *L'introduction du machinisme dans l'industrie française*, comments on the same situation in France. Pirenne emphasizes the importance of new blood in all the transition periods during the rise of capitalism. Evidently the self-made American captain of industry is not a unique figure in economic history.

despised process were quite generally self-made, not the merchant-manufacturers who had been prominent in the cotton industry or their sons. Some of the men who founded cotton mills had been prominent in other industries. For example, the Frenchman François Perret, who set up a cotton factory at Neuville in 1780, had been a silk manufacturer in Lyons. In times of swift change, old firms are often handicapped by the very size of a business with established connections and traditions.

In the last chapter mention was made of a tenfold increase in American cotton exports during the decade before 1800, at the opening of which the cotton gin was perfected. During this decade, English exports of cotton manufactures rose in value from £1,662,000 to £5,406,000. This was just at the time when France was handicapped, relative to England, by revolution and war. Cotton was given a sudden increase in advantage over silk, which industry was further hampered by the events of the period. England's substantial and growing supremacy at sea from 1793 to 1815 put her in a peculiar position in respect of a growing industry which depended upon imported raw material and needed export markets. She made the most strenuous attempts to keep her improved textile machinery from reaching her competitors, enjoyed a monopoly of the one practicable type of steam engine, and was the one country which had considerably developed iron smelting with coke. Her command of the sea perpetuated itself in war-time by keeping open to her and largely closed to her enemies the best world sources of naval stores and shipbuilding materials.

For decades the greatest advantages of power machinery accrued to the earlier processes in cotton manufacture — notably ginning and spinning — rather than to the later ones, nearest to the marketing end. Just how much influence this exerted upon the growth of distinctively industrial capitalism in the business is hard to estimate. The industry was split into two camps. While the merchant capitalists who clung to the putting-out system held a large share of the

market, they depended upon the industrial captains of the spinning machinery for their yarn. Of course, this dependence was mutual. As the industrialists grew wealthy and the volume of their production increased, they clashed more and more with the merchant-manufacturers. The mills extended their operations further down the series toward the market for finished cloth. This amounted in practice to a growing domination of commerce by industry.

The decisive stage of the transition in England was between about 1820 and 1840, when the putting-out system encountered the deadly competition of power-driven looms. We may say that the factory *system* was fully established in England by the later date and certainly predominant in the textile industries by 1850. The perfection of weaving machinery enabled this system to establish its supremacy in the wool and silk trades, as it had already done in most grades of cotton and linen.

LABOR CONDITIONS

There is no more intricate task in economic history than to trace the effects of the rise of the factory system upon social classes. As early as the thirteenth century, even in northern Europe, the wage-earning journeymen in some trades had shown a sufficient consciousness of their common interests, as opposed to those of their employers, to form associations and attempt concerted action. Laws and regulations were passed against the practice. In other words, neither group in the growing division was entirely unconscious of it. A real proletariat existed in some of the Flemish towns which manufactured for export at the end of the Middle Ages, dependent upon its wages from employers for its daily bread. As remarked above, the spread of the putting-out system, especially in the seventeenth and eighteenth centuries, but also in the sixteenth, greatly increased the numbers of the proletariat, and the weakening of the older form of apprenticeship tended more and more to fix this class in its purely wage-earning rôle.

Every age has had its changes. It is these rather than any sort of stable conditions, however bad, which have produced unrest. Whenever the changes have been swift, they have brought dislocation, misery, cries of ruin, and beliefs that what went before was better. Not to go back to John Ball, we may recall Thomas More's labors and writings to check enclosure (sixteenth century), and Goldsmith's *Deserted Village* (eighteenth century). Labor conditions under the factory system fall under a number of different though related subjects, which should be treated separately to avoid confusing them. Unfortunately, the most important one historically is the one on which we have the least information: the exact effect which the concentration and mechanization of industry produced upon working-class life *as it actually was* just before the Industrial Revolution.

We can state positively that the factory system took the labor of men, women, and children out of the household. The concentration enables us to see conditions in the factory with exceptional clearness. About such vital questions in the comparison as the labor of women and children under the putting-out system, we do not know as much as we should like. How much worse off, if any, were the early factory workers than their more numerous competitors outside? Both were mainly wage-workers. Just before 1840, in England, when the commercial capitalism of the weaving process was engaged in a losing fight with the rising captains of industry, the wages and conditions outside the factory were probably the worse, on the whole. To what extent were both due to the fact of swift change incident to the rise of the factory system rather than inherent in the new order itself?

Even if we could answer all these questions positively, the general comparison suggested at the outset would involve a pretty detailed knowledge of the conditions under which the fathers and grandfathers of these workers of 1820 or 1840 had lived and labored. We should see immediately that these differed enormously between industries, and from Yorkshire to Kent or from Brittany to Flanders. Much of the literature

on this subject partakes of the nature of propaganda, and avoids setting up or acknowledging any real standards of comparison. The historical vice of suddenly beginning a narrative like that of the rise of the proletariat in the middle, and of failing to suggest what it is that is being compared, is that there is always an implied standard: that of the reader, who lives in a different age and place, and probably belongs to quite another social stratum. To give a mild but perhaps suggestive example, some volunteer American relief workers in Europe during the decade of the World War regarded a peasant as in misery if he did not have leather shoes.

Where the putting-out system was rural, and in the regions where the peasants involved still had cultivable land, real misery does not seem to have been very general on the eve of the Industrial Revolution. Conditions were likely to be worse where the workers were landless. Another factor was the amount of concentration. Even an enterprise which was chiefly centered in a village, and formed the source of livelihood of most of the villagers, might still be called "rural." In using the word "craftsman" for this period, it should be recalled that the man designated may very well be a wage-earner, working at home for a clothier. Still another situation presents itself where the putting-out system operated in a town, and a fourth where it was much modified or abolished by collecting the workers in a central establishment. All things considered, the order in which these four rough categories of workmen and conditions is given would seem to be the correct one in a descending scale of well-being. The first class tended to lose its land, the second to be collected in a town or an industrialized village (which is the same thing except, perhaps, for less diversification of industrial and commercial life), and the third to be concentrated in a central workshop. What the new machinery did was to increase the amount of dislocation and the movement of population toward the centers where the workers were subject to more discipline and regimentation. Only those who had land had been independent, as a class, before.

There were still vestiges of crafts which had not fallen under the sway of the putting-out system. These now had to struggle against a new form of capitalism as well as the old one, to maintain their independence.

As long as work continued to be done in the homes, the women and children worked chiefly with the men of their own families. They were certainly overworked, undernourished, and badly treated at times. In organization, the putting-out system resembled nothing in the contemporary world so much as the sweatshop, which can be tolerable or very bad. If misery was not always increased by the introduction of factories, it was at least massed and made conspicuous. Eventually, this fact helped to bring about protective legislation.

When the workers entered the new industrial towns, they did not find well-equipped dwellings, but rather hastily erected shacks and tenements. The factories themselves had arrived so swiftly that most of them were crudely built, from the standpoint of safety and health as well as of comfort. For the first time, women and children were employed on a large scale in work which separated them from their homes during the entire working day. Great as were the abuses of woman labor, the most distressing aspect of the new factory system lay in the general employment of young children. Much the worst evil was that connected with the utilization of pauper apprentices.

Great numbers of poor children were to be found in the cities of southern England, supported out of the poor-rates. As soon as the demand for child labor developed, poor-authorities began to farm out these apprentices to manufacturers in the northern towns ostensibly as "apprentices" to learn a trade. Once the authorities of London, for example, had sent these children out of that part of the country and given up control over them, there was no one to look after their interests. The only curb upon the occasional employer who was devoid of humanitarian sentiments was the fear of starvation, epidemics, or a mortality so terrific as

actually to create a scarcity of labor. Various cases of working days of fourteen to eighteen hours for children under fourteen years of age were found by factory investigations, and the wages paid were pitifully low. The following testimony of a father of two working boys, given to the factory commissioners in 1833, is a sample of the worst conditions:

> My two sons (one ten, the other thirteen) work at the Milnes' factory at Lenton. They go at half past five in the morning; don't stop at breakfast or tea time. They stop at dinner half an hour. Come home at a quarter before ten. They used to work until ten, sometimes eleven, sometimes twelve. They earn between them 6*s*. 2*d*. per week. One of them, the eldest, worked at Wilson's for two years at 2*s*. 3*d*. per week. He left because the overlooker beat him and loosened a tooth for him. I complained, and they turned him away for it. They have been gone to work sixteen hours now; they will be very tired when they come home at half past nine. I have a deal of trouble to get 'em up in the morning. I have been obliged to beat 'em with a strap in their shirts, to pinch 'em, in order to get them well awake. It made me cry to be obliged to do it.

The following table, condensed from one in Bowley's *Wages in the United Kingdom in the Nineteenth Century*, indicates the amount paid per week to leading types of English laborers between 1795 and 1833:

	1795		1807		1824		1833	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
London artisan	25	0	30	0	30	0	28	0
Provincial artisan	17	0	22	0	24	0	22	0
Town laborer	12	0	14	0	16	0	14	0
Agricultural laborer	9	0	13	0	9	6	10	6

It will be noted that the changes, in terms of money, were not great for the period. These figures are for men. The payment to women and children was much lower, averaging from four to nine shillings per week. With the low wages, the absence of healthy forms of recreation, and the long working day, it is not surprising that immorality was prevalent, as about the only method of breaking the monotony of industrial life. The drawing of women and children into the factories on a really large scale in England was stimulated by

the Napoleonic wars, when men were harder to get, but the practice was continued because it paid.

Even the most elementary hygienic laws were ignored. Ventilation and heating were often absent or inadequate. No provision was made for rest rooms, or the other comforts now common in well-equipped factories — or the medical services now prescribed by law. Machinery was generally unprovided with guards. Fatal accidents were frightfully common, and maiming even more so. The relatives of the deceased and the injured were rarely able to collect damages, as the common law required proof that the employer was directly responsible for the accident. Aided by a good attorney, he could usually lay the blame upon the employee himself or invoke the negligence of a fellow servant, which was also sufficient.

Labor conditions in the mines of England at this time were even worse than in the factories. Women and children were extensively employed in underground pits from twelve to sixteen hours per day. Women were utilized to push or draw coal carts, particularly in places where the roof was too low to allow a donkey to pass through. Children of four and five years of age were used in the mines as "trappers," opening and closing doors for the passage of carts of coal. The wages paid to these women and children were scandalously low, averaging from 2*s*. 6*d*. for the young children to 12*s*. per week for the very best women.

It would be easy to charge such conditions to the inherent moral turpitude of industrial capitalism, and easier still to attribute them to the swift rise of the factory system. We must be slow about measuring the amount of humanitarianism at the opening of the nineteenth century by the standards of our own time. Penal codes were still frightfully severe. Public torture of convicted criminals had hardly gone out of fashion, and the idea that people should not be tortured to get confessions before conviction was still new. The same combination of circumstances which enormously stimulated child and woman labor — the effects of the French

and Industrial Revolutions — abolished slavery in the end, passed sweeping labor legislation, softened criminal procedure, and created a world in which acts would be considered atrocious which passed as a matter of course in the eighteenth century.

Moreover, conditions were worse, on the whole, in the smaller enterprises than in the big ones, and things now almost incredible went on outside. For example, we may take the notorious and terrible case of the chimney sweeps. Many of the chimneys were less than a foot square inside. Children were taken at three or four years of age — and sometimes stolen — for this work. They were pushed up through the chimneys, often while still hot. Many were burned to death, lost in side flues or smothered. Permanent disfigurement or loss of eyesight was commoner than death outright. The hardiest child could not get used to the work for many months. These unfortunates were treated practically like animals, having their food thrown to them and often going unwashed for years. Serious attempts to abolish the evil by law were initiated as early as 1804, but they repeatedly died in Parliament, especially in the House of Lords, the stronghold of the landed interests rather than the industrialists. In fact, a majority of the larger employers supported the reform legislation, including the factory acts. Adolph Blanqui noted more than three quarters of a century ago that it was particularly smaller, poorly equipped manufacturers who had to cut wages and grind their help in order to compete with the bigger, better organized plants.[1]

The factory system involved so many different elements, some old and familiar, others new and strange, that even those who recognized a situation which would have to be regulated were at first unable to see the problem as a whole. The wage system had crept in as a feature of the putting-out system. As the capital investment necessary for mining increased, and machinery such as pumps became more general, the problem of regular hours and discipline arose. In the

[1] *Des classes ouvrières pendant l'année 1848*, pp. 42–45. Paris, 1849.

occasional central shops of the cloth trade the situation was similar. The factory with power-driven machinery rendered discipline and regimentation absolutely inevitable, if confusion and chaos were to be avoided. A supervision based upon personal contacts would not meet the situation created by the bringing of scores or hundreds of workers under one roof. Rules had to be made defining the hours of labor, the assignment of individual tasks, the attitude of the employee in his relations to the employer, details of conduct within the factory, and even the matter of orderly entering and leaving. Arkwright was one of the first to devise an adequate code of factory discipline, and his system was so successful that it was widely copied, becoming the basis for much more elaborate ones later. So intricate has the code become in some places that its complete and literal application would paralyze the operation of the plant. This situation has been seized upon by certain radical labor organizations, which have practiced peaceful sabotage solely by carrying out the rules with great thoroughness and literalness.

Two general sets of problems, coming together at various points, arose from the very nature of the factory. First, it was an economic institution, involving an investment in machinery which must be kept turning. Second, it was a social institution, affecting all the others, including the family and the State. Even as a competing economic unit, it had to find by experience what the limits were beyond which a ruthless exploitation of the workers did not pay. This was not one problem, but an intricate series of problems. What would pay one manufacturer, temporarily, might not profit him in the long run, or another at all. The permanent interests of all the manufacturers put together were more bound up with the well-being and purchasing power of the workers as consumers than was at first realized. Finally, the State, as the guardian of the common and permanent interests of everybody within a large area, including the generations yet to come, found it necessary to regulate manufacturing.

When this necessity became apparent, which was pretty early in the history of the factory system, it found in the way not only private interests and prejudices, but also a vast uncertainty as to what kind of regulation was required. The working class itself was at first quite conservative, seeking protection and relief in the application of old laws such as the Elizabethan Statute of Artificers in England. From the start, there was a hostility toward the machines themselves, which were sometimes broken up by mobs when the misery became acute, as in the case of the Luddite riots of 1811–12. Reformers from the more fortunate classes also directed their efforts mainly to the correction of specific abuses, beginning with the condition of the apprenticed children in the cotton mills. These waifs from the workhouses were supposed to be learning a trade, but were often actual industrial slaves. In a peculiar sense, they were the wards of the State. For that reason, the State could regulate their treatment by employers without making a frontal attack on *laissez-faire* susceptibilities or stirring up the cry that it was invading the sacred precincts of the family. Nevertheless, there was no logical place for public control to stop, once started. It spread to other groups of children, to women, to men, and from one industry to another, until eventually it dawned upon people that there was a principle involved.

EARLY LABOR LEGISLATION

The changes in the economic and social structure of society which matured in the factory system were at least revolutionary enough to render obsolete the mass of labor legislation accumulated through centuries. Apprenticeship, which had been so important in medieval and early modern regulations, had ceased to exist in some of the new industries. In others it did not mean at all the same thing which it had in earlier times. A large and permanent class of wage-earners was one of those disconcerting things known as facts, which have to be recognized sooner or later. This class had its peculiar interests, some of which it gradually came to regard

as rights. These have a way of becoming legal when a great many people agree upon the same ones. For the aspirations of a group to become law, there must be leaders. We should probably pick Robert Peel and Robert Owen as the two men who did most to bring the need of factory regulation before the English people up to 1820. Both were manufacturers.

Besides various sanitary and educational provisions, Peel's "Health and Morals Act" of 1802 forbade the "apprenticeship" of children under nine in the mills, limited child labor to twelve hours a day and prohibited night labor altogether. It did not touch the smaller establishments with not more than three apprentices or twenty people in all. Neither did it prevent parents from taking their children to the mills to work. War with Napoleon broke out again almost immediately, and the law was largely a dead letter during the trying times of the next dozen years. Its scope was too narrow, and the loose system of inspection provided might have broken down even under more favorable conditions. During the very month in which the battle of Waterloo occurred, Peel proposed to the House of Commons that the earlier act be extended to include non-apprenticed children. This was not done, but a parliamentary committee was appointed in 1816 to investigate the whole subject.

In spite of the trials of a reconstruction period, Peel and Owen, armed with the findings of the committee, succeeded in forcing through a new Factories Regulation Act in 1819. This measure brought all children under the provision of the earlier one, establishing nine years as the minimum age of employment in cotton mills. The twelve-hour day now included one and a half hours for meals and applied to children up to sixteen years of age, and nine hours was fixed as the maximum on Saturdays. There was a great deal of opposition to this act, and it was badly enforced, in spite of special provisions passed later. It interfered with the exploitation of children even by their parents. *Laissez-faire* sentiment in economic thought was growing, given a peculiar turn by Malthus's views on population and those of a rising school of

economists on wages. Malthus had suggested in his famous essay that a population which multiplied must tend to press upon resources which he thought could be increased only by addition under the conditions then existing. Some economists were a little hasty in deducing from this that wages would hang around a level of bare subsistence, since if they were improved the slack would be taken up by further increases in numbers. Short hours were frowned upon as breeders of idleness and vice. Neither the employment of women and children nor the approval of it was new. Defoe had rejoiced a century earlier to see in a Yorkshire town "scarce anything above four years old, but its hands were sufficient for its own support."

Adam Smith had contributed to the late eighteenth-century enthusiasm for scrapping economic regulations in general, and commercial ones in particular. The prohibition of wage-earners' (journeymen's) associations in earlier times had been part of a system of regulation which also forbade combinations of employers (masters) to control an industry, and maintained a minute supervision of commerce and prices. Merchants had more and more broken away from this during the commercial revolution, and at the end of the eighteenth century many people deemed free trade possible, even between nations. This tendency and spirit had spread in industry during the long growth of the putting-out system, which was dominated by merchants. Early in the nineteenth century, there was a general failure to recognize that the creation of a permanent wage-earning class which had to bargain with ever larger and stronger industrial and commercial units must inevitably lead to organization sooner or later. Combinations of workers were forbidden, not only by the English common law, but by an ancient body of statutes as well.

Thirty-four of these acts, the accumulation of centuries, were abolished in 1824, and an act authorizing peaceful combinations set in their place. This new law was replaced the following year with one which withdrew most of the

privileges it conferred, but the mass of old legislation was dead. Revolutionary and Napoleonic France had been equally severe with workingmen's associations for bargaining purposes, and had shown some of England's laxity in permitting other combinations to spring up. There were survivals of the old *compagnonnage* of the gild period, and also of the *mutualité* of pre-Revolutionary times. Both had more or less ritual. The traditional function of the first was to provide hospitality and companionship for wandering journeymen, and the second was an organization for mutual aid, as the name suggests. By about 1825, the factory system was beginning to take hold in France. This growth was accompanied by the rise of a new type of association, the "resistance society" (*société de résistance*), which was frankly a combination for bargaining strength.

This early growth of unionism was a factor in the whole problem of labor legislation, not so much because of anything the unions could openly do as of the solidarity which they manifested and promoted. Unions were not permitted by law in France until 1884, but enjoyed sixteen years of "toleration" previous to that time. Since the Government did not allow them to do anything more immediately practical in their own interest, they went in for socialism, the real cradle of which was rocked in France. Later, they founded cooperatives by hundreds, but the Government suppressed these in 1851. The English proletariat was as much more important than the proletariat of France as the English factory system was more general. Unionism grew until 1834, when a decade of renewed governmental severity turned the interest of the working classes into more general programs. Chartism, a vast but unsuccessful agitation for sweeping reforms in the Government which have largely been achieved since, was in part a product of suppressed unionism. Many took part in the Anti-Corn Law movement, and there was a good deal of experimenting with cooperation, as in France. After this decade, English trade-unionism entered a period of steady and conservative growth,

but its directly traceable effects upon labor legislation belong to a later time.

Even fourteen years is a good while in a period of rapid industrial development like that which separated the factory acts of 1819 and 1833. The perfection of the power loom in 1822, which made it an undoubted commercial success, gave the factory system a general superiority. It steadily invaded the whole textile field, gradually forcing the abandonment of the putting-out system. This was accompanied by a general mechanization of industry, including the spread of steam engines and a vast increase in the mining of coal and iron. Not only did the business of the old merchant-manufacturers pass over largely to the new industrialists, but the weavers of wool and cotton goods employed by the former suffered everything up to actual death by starvation in the process. If the struggle between the two forms of capitalism had been actually hand to hand, conditions might not have been so hard for the workers, or so confused; but the industry was moving at the same time. Oftentimes the starving hand weaver could not hire out to the near-by factory, because there was none near, the centers of the old industries being in different parts of the country. Regulation was more difficult in new factory towns than it would have been in older centers of population where the element of outsiders was larger. Life was certainly more stark and ugly, if not actually less comfortable. The mines and collieries were the most isolated, but they did not attract much attention until later.

Michael Sadler precipitated a great deal of agitation into action by introducing into Parliament a bill for a universal ten-hour day in 1831. It was lost, but the ferment continued, borrowing enthusiasm from the crusade to eliminate slavery in Great Britain's West India colonies. The next year a parliamentary commission was appointed, with Sadler as chairman, to make an investigation of factory conditions. After a terrific political struggle, the most famous of all the factory acts was passed in 1833. Lord Ashley, a young scion of one of the most eminent and aristocratic families in

England, was largely responsible. The act applied to textile mills generally, with some concessions to the silk industry. With this one exception, the labor of children under nine in factories was forbidden. No person under thirteen could be worked more than nine hours a day or forty-eight in a week, including an hour and a half per day out for meals. For persons under eighteen, the limits were twelve hours a day, sixty-nine per week.

Night work was precisely defined as that between 8.30 P.M. and 5.30 A.M., and no young person (under eighteen) was permitted to do it. On the positive side, the act prescribed two hours' schooling per day for all factory children. Really adequate inspection was made, by bringing in inspectors from the outside and giving them the widest discretion, backed by law, in seeing that the provisions of the act were fully observed. They could enter any factory, summon any person as a witness, and even pass supplementary regulations which they deemed necessary to enforce the measure. A system of conferences and reports laid the foundation for a body of expert knowledge, which would be available whenever it should be found necessary to extend or change the original act.

To the person who has been looking at the twentieth-century industrial order, or steeping himself in the records of medieval gild regulations, this result of more than thirty years of agitation looks rather mediocre. Labor leaders did not shed any tears of joy over it as a substitute for Sadler's ten-hour day measure. No restrictions were placed upon the employment of women, not to mention men, workers. Moreover, it was merely a factory act, and did not touch the equally disgraceful conditions in mines, collieries, and various other branches of industry. Considering the general spirit of impatience at any suggestion of government interference at that time, however, the act made some significant breaches in the *laissez-faire* policies. These were not so large as they were well placed to grow. A partial acknowledgment had been made of the fact that the home was no longer the unit of

industrial production, and that the family no longer fully sufficed to protect and educate its members.

Almost incidentally, Parliament in 1840 accepted Lord Ashley's suggestion to create a general Children's Employment Commission. The Coal Mines Regulation Act of 1842 followed its first report, and the second, covering various other industries, bore fruit in succeeding years in a long series of regulatory measures. From cotton manufacturing, the field of government regulation had been expanded first to textiles in general and then to industry in general. It was not until 1878 that the Factory and Workshop Act classified all industries and provided a thoroughly knit fabric of labor law, but the real victory had been won long before.

A factory act of 1844 made various minor changes in the regulations for child labor, gave women the same protection as young persons (between thirteen and eighteen years), required the enclosure of dangerous machinery and provided for money compensation in case of preventable injury by machines not properly guarded. The Ten-Hours Bill for women and children in textile mills was passed in 1847. Lesser regulations and new provisions for enforcement continued. New industries were brought within the growing system until finally, in 1867, even the workshops were given a special set of rules, in the same spirit but adapted to their special conditions. By that time, even isolated labor was regulated, and the broad lines of a complete policy were laid down. The labor unions were influential in bringing about this legislation of the sixties.

France adopted a child-labor law in 1841, after years of agitation. It was similar to the one then in force in England, though more liberal on the whole. Trouble was encountered in enforcement. Other scraps of legislation up to the war of 1870–71 with Prussia may be passed over, as they were not enforced. The "June Days" of 1848, a revolt in Paris which followed the discontinuance of the national workshops, helped to discredit labor reforms.[1] Beginning with 1874, a

[1] It was a system of temporary relief rather than of real workshops, set up

series of laws established government regulation of labor conditions in industry generally. Belgium, more advanced industrially than France, went through this process about the same time as England. The Germans were somewhat ahead of the French in this matter, even in the period before German industrial expansion had got under way, and while France still held Alsace-Lorraine.

Factory legislation after the fifties really belongs in a different category, and should hardly be called "early." In the last chapter, the perfection of Bessemer's steel process was taken as an important fact illustrating and influencing the rise of a new phase of industrialism. Even in the earlier period, the narrative continuity of the spread of regulation is somewhat artificial. The main stream of events was the evolution of economic organization, of which an inseparable part was the increasing mechanization of processes. Bad labor conditions were a heterogeneous by-product of this. So confused were they that the working classes did not even develop their own leaders in the movement for regulation at the outset. Before the triumph of industrial capitalism about the middle of the century, the factory and out-work parts of the proletariat were hardly connected. Even in the strictly industrial branch, we have seen that there was no close relationship between groups, the regulation of conditions in mines coming forty years after the first factory act and nearly a decade after the one of 1833, when the abuses in the mines and collieries were fully equal to the ones corrected.

The growth of both unionism and socialism [1] after the mid-

during the revolutionary crisis and carefully slated for failure by the enemies of Louis Blanc, who had a totally different scheme for "social workshops" which he hoped might revolutionize economic society.

[1] Socialism is extremely hard to define, as it represents the more or less conflicting hopes of various people and groups for transforming industrial society. In general, it contemplates the substitution of collective ownership and management of the great material instruments of production for the (capitalist) system of private property, enterprise, profits, interest, and rent. Historically, it has developed its own bodies of theory, dialectic, and dogmas for the interpretation of economic facts, which have their place in the history of doctrines. The term "scientific socialism," as applied to Marxism, arose from a remark of

dle of the century was very closely associated with the triumph and the increasing consolidation of industrial capitalism. The call for proletarian unity by Marx and Engels in the Communist Manifesto of 1847 was an admission that it did not exist as well as an expression of the hope that it might appear. Twenty years later, it was substantially a fact in England, so far as the attitude of protective legislation was concerned. This was the year in which Karl Marx, who was living in London, published the first volume of *Das Kapital.* The putting-out system had largely disappeared. There was still an unorganized agricultural wage earning class, but the industrial workers were no longer helpless, leaderless, or inarticulate.

Still, the much-heralded social revolution did not show its head on any near horizon. If integration of a kind had made amazing strides, it was not at all the simple process which the social revolutionaries of the forties had expected. On the Continent, the unions were more or less related to the socialist movement, but in England, the home of the Industrial Revolution, they were much more specialized to particular trades. A national association of 1845 lived for fifteen years, but never included many of the largest unions. After a newer industrial revolution had arisen from the triumph of industrial capitalism, cheap steel, and other factors, the relations between British trade unions tended to be more sporadic. Instead of the proletariat forming one class, it was divided into many, the interests of which were often not the same. Town and country clashed without adhering strictly to any class lines. In England, the town point of view influenced the Government more than in agricultural France. Some workers were also investors in capitalistic enterprises, some shared in coöperatives, and still others were fairly satisfied with their condition. However little besides their

Engels in 1877, who based the claim on the materialistic conception of history and the theory of surplus value. The latter will be briefly discussed at the close of this chapter. The Communist Manifesto of 1847, written by Marx and Engels, is an extremely brief but astonishingly satisfactory exposition of their position. We should call it a socialist manifesto now.

chains they may have had to lose in 1847,[1] in later years some of them felt that they had a considerable stake in the existing order. Unions tended to be definite and practical rather than revolutionary in their choice of labor legislation, and their interests expressed a variety similar to that of groups of capitalists.

Unionism and socialism competed as often as they cooperated. Both found it very difficult to ignore national boundaries or to organize across them. Socialism as well as unionism split up into groups with conflicting interests. Revolutionary fervor lost some of its heat with the passage of time and the failure of the social revolution to materialize. Then people who did not want any revolution began to join the movement, and some socialistic groups to coöperate with those which did not even pretend to be socialists. Many of the practical results of socialist aspirations were achieved in this way.

In the field of labor legislation and organization there is also a certain reality to the conventional ending of an Industrial Revolution about the middle of the nineteenth century. *Laissez-faire* commercial capitalism lost its economic leadership to a *laissez-faire* industrial capitalism already tainted with government regulation, and facing the necessity of tolerating some organization of the wage-earning classes. By easy stages, already begun, these workers were also to gain the vote. They were destined to exert a profound influence during the second half of the century, not only upon the laws governing their own sort, but also upon economic policies in general.

[1] The Communist Manifesto declared that the proletarians had "nothing to lose but their chains," and that the communist (socialist) aims could be achieved "only by a violent overthrow of the existing social order." Its battle cry, "Workingmen of all lands, unite!" has been repeated innumerable times since. This militant attitude must be viewed against a background not only of the personal experiences of the two exiles, but of many failures to overturn capitalism by forming regional nuclei or communities of socialists, and of the resistance to widespread innovations in matters of detail.

NEW ECONOMIC IDEAS

(A) ORTHODOX ECONOMICS

Adam Smith's ideas were written down fairly early in the Industrial Revolution. Some of them were, of course, formed long before 1776, either in his own mind or in those of others. The Physiocrats had favored free trade, the freedom of labor, and a great reduction in state interference generally. Their world was a world of law, and to them the laws of nature were, on the whole, beneficent. A system of free competition, they thought, would find the price levels most advantageous for everybody, since personal interest must seek what is best for it, and the good of all is merely the sum total of that of the individuals. It must be remembered that they were upper-class, cultured people, living in France under the old régime. Their stress upon extractive industries (and in most cases upon agriculture alone) as the sole true *creators* of new wealth was largely a product of their environment. Turgot, who stood halfway between these *Économistes* and Adam Smith, was free from many of the earlier vagaries about production, but not all. Smith found some really clear thought about the distribution of wealth (income, rewards), and there was some which he did not find — notably that of Condillac — which was more in line with our present views than his own. His greatest contributions were his analysis of production and his synthesis of the whole field.

The appearance of his *Wealth of Nations* was exactly timed to give it a profound influence upon the attitude toward problems in connection with the rise of the factory system, still in its early infancy. He transmitted to economics as a rising science the eighteenth-century enthusiasm for a "natural order," including an optimistic view of the supposed natural organization of economic society under the pressure of personal interests, if these were allowed to exert themselves. To his broad culture in the thought and institutions of the past were joined great powers of observation and analysis and a happy faculty for expressing himself. Considering that he was a philosopher, already well known for a treatise

on ethics, the superiority of his ideas on the production of wealth over those on its distribution is a little puzzling, as it is in the latter field that most of the ethical questions arise. Professor Rist suggests an answer to this problem.[1] In Smith's course at Glasgow, before he went to France and came into contact with the Physiocrats, he dealt almost exclusively with production. The background for this part of his thought was thoroughly British. The important parts on distribution are founded more upon Continental ideas. On the whole, they are perhaps less clear, digested, and independent of their origin. While he organized the treatment of the distribution of wealth by distinguishing between its sources as wages, rent, and interest, he never rounded out his doctrine by dealing with labor, land, and capital as three factors in production. This familiar approach was added by one of his interpreters, the Frenchman J. B. Say.

With telling practical examples like the famous one of the makers of pins, Smith argues that a nation should be viewed as a vast workshop, in which the basis of wealth is the division of labor. The growth of specialization to tasks leads, he asserts, to greater dexterity and inventiveness on the part of the individuals, and a great saving of time is achieved in avoiding constant changes of occupation. Later, he has a flash of pessimism, reflecting that a workman specialized on a simple detail may become stupid and ignorant in the mechanical routine. He foreshadowed Malthus, Ricardo, and Marx in suggesting that the supply of laborers depends upon

[1] Gide and Rist: *A History of Economic Doctrines from the Time of the Physiocrats to the Present Day*, English translation, 1917, from the second French edition of 1913, pp. 50–56. Some such work as this — and this is the best which has appeared so far — is an indispensable companion to the study of the economic history of the past hundred and fifty years. In economic history proper, where the main stress must be upon actual organization, any compact treatment excludes the attention to the special subject of the accompanying growth of theories and programs which it deserves. Even in the above work of 648 pages, the authors apologize for the necessary omissions in the history of doctrines, which they regard as only a "distinct branch" of economic history. If they must also regret "the comparative neglect of the economic history," which is our main subject, we can at least feel easy about economizing space on a branch of it which they have treated so well.

the demand for labor, with poverty and misery as checks. The well-known parts of his doctrine concerning the "natural" freedom of enterprise and trade have been mentioned above. They are largely transmissions of the current eighteenth-century view.

Smith's more or less conflicting theories of the nature, source, and measure of value helped to split his successors into irreconcilable camps of "classical economists" and socialists — to mention only two, and these in their broadest outlines. Labor was, he stated, not only the one source but also "the real measure of the exchangeable value of all commodities." This proved unsatisfactory in dealing with the more developed societies, so he varied it and added to it as the case seemed to require, leaving his theory of value more or less obscure, as a whole. In one place, the "real price" is assumed to be based upon labor; but in another it is the cost of production, including wages, *plus interest and rent* on the capital and land which have coöperated in the process. Elsewhere, he treats interest and rent as deductions from the value which labor alone creates. As to the day-to-day price of the *market* [1] he admits that it fluctuates with the quantities demanded and offered.

Malthus, like Smith, was widely traveled and a cleric and

[1] We might illustrate the difference between the two prices by the crop of American cotton. Though the quantity is known, once it is picked and the amount of labor for that year settled, the price, say on January 20, may be 20 per cent above or below the average one for the crop. Present-day economists would deny that even the market value of the whole crop is determined by the amount of labor required to produce it. It depends upon demand as well as supply, and demand is determined by a highly complex group of factors, including conditions in the cotton manufacturing industry (which are in turn affected by those in other industries), rent, interest rates, etc., as well as wages. Even in the apparently simple case of a crop whose size is fixed and known by years, the market value is affected by the amount left over from previous seasons, opinions as to the quantity available during the current season before it is all matured and ginned, and also by estimates of the next crop, with which some of the present one will have to compete. Obviously, labor cannot be a very *useful* measure of value under a régime of private property (which Adam Smith assumed), if it does not correspond to the actual market price of one bale of cotton or the average market value of all of them. Smith had his doubts on this subject, but they did not lead him completely to clear up his doctrine of value.

philosopher, not a business man. Among his various contributions, the one which had most effect was his study of population, especially of the tendency to overpopulation. In the society which he observed, just at the turn of the century and in the midst of the French wars, he did not regard the prospect of increasing the means of subsistence faster than an arithmetical ratio as promising. Since population, if unchecked, doubled in about twenty-five years, he thought checks must be found, and favored "moral restraint" as an alternative to misery.

David Ricardo was a broker who had amassed a fortune on the stock exchange. He was not university trained. The emphasis in his difficult and controversial writings is on the distribution of wealth, whereas Smith had stressed production. Smith's optimism and eighteenth-century background had led him, in his explanation of rent, to stress a sort of special bounty of Nature, whereby more people could live on the earth than were required to till it. Malthus had suggested that the pressure of population tended constantly to tax this bounty, and added that the owners of the more fertile land got a special profit because of that advantage. This "differential rent," as it was later called, was considered a just reward for the "strength and talent" of the original proprietors. As to the later ones, they were assumed to have exercised similar virtues in amassing the purchase price.

Ricardo took the view opposite to Smith's, holding that rent comes not from Nature's bounty, but from her niggardliness! Rent arises only "when the progress of population calls into cultivation land of an inferior quality or less advantageously situated." The cost of raising grain on the poorest (or marginal) land fixes the price, and those who hold better land can get a profit or bonus, which is the basis of rent. It is evident that there is a simultaneous pressure to cultivate more intensively the lands already in use — giving an "intensive margin" of cultivation also, as we call it, as well as an "extensive" one. Ricardo saw, as Turgot had before him, that this leads to diminishing returns — that is,

that the product from a given piece of land cannot be indefinitely doubled by doubling the expenditure. Ricardo said little about the distance from market, leaving this feature of production cost to be developed by the German, von Thünen.

According to Ricardo's analysis, rent could not increase the cost of grain in the market, being itself entirely dependent upon the price. Therefore, let us have free trade in grain! He refused to treat capital as a separate factor, insisting that it was a mere creation of labor, to give it effect. For him, as for Adam Smith at his simplest, labor was the measure of value. Smith had admitted that this was strictly true only of primitive societies, and brought in both capital and rent in dealing with the others. Ricardo assumed that the amount of capital employed in producing goods is "proportional" to the amount of labor employed and eliminated rent as a source of value.

Ricardo had struck a terrific blow at the moral prestige of the landlord class. His great confidence in man's productive capacity did not suffice to cover up an ominous note of pessimism in his attitude toward Nature and the population problem. By 1817 when his great general treatise appeared, there was more than grumbling about the factory system, grain prices, and enclosures; and most of the *laissez-faire* enthusiasts saw no charm in an attack on principle upon the whole idea of a beneficent "natural" order, even by a friend of the existing one.

It is not so easy to trace the effects of Ricardo's important contributions to the theory of money and international trade as it is of his doctrines concerning rent, value, wages, and profits. His friend James Mill took the logical consequences of his rent and value theories and advocated the appropriation of rent by the State through taxation. Thus he was a forerunner of Henry George, of "single-tax" fame, among others. Ricardo's labor-value theory [1] was one of the foun-

[1] Note that Ricardo, like Smith, assumed a régime of private property, and was merely trying to explain its operation. His labor-value doctrine became something entirely different in the hands of the socialists, who discarded his primary assumption.

dation stones of Marx's socialistic doctrine. Between Ricardo and Marx were Blanc and Proudhon. Blanc wanted to set up "social workshops," by means of which the whole laboring class would get what he conceived as its produce; but his theory was confused by a doctrine of consumption according to needs rather than production within the class. Proudhon was clear on the idea of a surplus value which labor created and did not get. Marx won his first honors as a theorist in 1847 in an attack upon Proudhon — not for his ideas about labor as the source of value, but for his extreme tendencies toward individualism. This aspect of Proudhon's thought, which was practically *laissez-faire* liberalism gone to seed, led him to be classified in the end as one of the founders of modern anarchy.

Ricardo was a free-trader, but not identified with the "Manchester School," though he greatly influenced James Mill and, through him, his greater son, John Stuart Mill. As Professor Gide remarks concerning what may be called the main stream of economic thought: "The thirty years which separate the publication of Ricardo's *Principles of Political Economy* (1817) from Mill's book bearing the same title are occupied by economists of the second rank, who apply themselves, not to the discovery of new principles, but to the development and coördination of those already formulated."[1] John Stuart Mill clung to the idea of the "unearned advantage" in rent — one of various elements which gave his thought a certain slant toward socialism. Rejecting the notion that the distribution of wealth is governed by im-

[1] Of the so-called "optimists," Carey may be omitted as an American, but a word should perhaps be inserted about the *Harmonies Économiques*, the best-known work of the Frenchman, Frédéric Bastiat (1801–50). His soundest contribution was his emphasis upon the standpoint of the consumer, both for understanding and for regulating economic phenomena. Incidentally, this stresses demand rather than supply. He had an optimistic but doubtful idea (to be combated by the socialist Rodbertus) that labor's share of its produce in coöperation with capital tended to increase as time went on. His argument was based upon the decline of interest rates. What escaped his notice was that a drop, say from 5 to 3 per cent, represented an *increase* in capitalization oftener than a decrease in yield, and also that the accumulation of profits and dividends, as well as the original capital, must be considered.

mutable economic laws, he thought that human interference could do a great deal toward introducing coöperation and mitigating the evils of the wages system. His adherence to *laissez-faire* was strong but moderate. To him it was a good general guiding principle, to be ignored where the acts of individuals were obviously harmful to society. Especially did he think it necessary for governments to afford organized protection to the interests of the consumers as such. This attitude encouraged many other moderates to lend their support to advanced labor legislation, including social insurance, often classified as the policies of "State Socialism," which came into vogue toward the end of the century.

John Stuart Mill, who lived from 1806 to 1873, is the outstanding figure of his time in what may be called the main line of development of orthodox economic doctrine from Adam Smith through Malthus, Ricardo, and James Mill to Jevons and Alfred Marshall. His influence upon the stream of events was due not so much to any resolution of the problems which troubled his predecessors as to his sensitiveness to both current issues and the thought of others. To Malthus's ideas on population he merely added an emphasis on other than "moral" restraints. His anxiety to protect the consumer had been shared by Bastiat. Bentham's utilitarianism is not materialism with Mill, who is careful to distinguish between different kinds of happiness. That he did not get any farther than he did from Ricardo's notion of value may have been due in part to the influence of Continental socialists. Early in life, Mill had fallen somewhat under the influence of the Saint-Simonian school, and at the time of his death had written part of a book on socialism. There is hardly a period in history so full of economic changes, and of ideas about them, as the three quarters of a century following the appearance of Adam Smith's *Wealth of Nations*. John Stuart Mill was the man of similar breadth and reasonableness to whom fell the task of restating the position in the light of the new facts and the new knowledge.

NEW ECONOMIC IDEAS

(B) CRITICISM, INCLUDING EARLY SOCIALISM

In the detailed chapters following this one, we shall have occasion repeatedly to notice that a great change took place toward the end of the nineteenth century in the attitude toward *laissez-faire vs.* government regulation. Besides the material basis for this, it had a background of systematic and widely accepted ideas which ought not to be entirely ignored. Even if we consider the labor legislation, social insurance measures, and tariffs simply as expedients, we need not forget that the statesmen who pushed them did so with one eye on the conscious groups they were supposed to benefit, placate, or undermine. Among these there were others besides the orthodox economists, a very few of whom have been mentioned above.

Great Britain differed enormously from the Continent — perhaps more so after the Napoleonic wars than in the time of Adam Smith. France never went through anything like the English enclosure movement, but remained a predominantly agricultural country of peasant villages and comparatively small holdings. Manufacturing occupied quite a different position in her national life and thought as a whole, as it still does, and early in the nineteenth century she had nothing to correspond very nearly with the British middle class. This last element was even more strikingly absent in Germany until recent years. The Continent provided more fertile soil for the growth of a proletarian class with socialistic leanings. Germany in particular did not find that the economic doctrines of a nation of foreign traders and manufacturers for export fitted her needs and aspirations particularly well.

Between 1840 and 1860, a group of German scholars, led by such men as Roscher, Hildebrand, and Knies, founded a historical school of economic thought. Their successors have included Schmoller, Bücher, and Sombart in Germany, and Leslie, Cunningham, and Ashley in England, to mention only a few outstanding names. This movement represented

a really serious revolt against the abstract economics of Ricardo, for example. Its founders were deeply convinced of the futility of mixing broad generalizations with fancifully perfect imaginary situations to build up dogmas. Their idea was to indulge in very little speculation, develop a sound historical method, and use it to accumulate a reliable fund of information, descriptive of the immediate past of yesterday which we call the present, and also of its inheritance from a remoter one. Respectable, university economics in Germany was very little prejudiced against a degree of state interference which would have caused a Manchester School economist to turn in his grave.

Friedrich List's emphasis on the unwisdom of neglecting historical perspectives when determining national policies allies him to the historical school. He had lived in the United States, a protectionist country, and done well there in a business way. His plea that free trade was absurdly favorable to the nation, Great Britain, which had the lead in manufacturing did not have its effects until many years after the publication of his *National System of Political Economy* in 1841; but his friendliness to state regulation fitted in too well with some of the current socialistic doctrine to escape notice.

In sketching merely the socialistic ideas which produced some undoubted effect, either directly upon institutions or upon later thought which bore fruit, we can completely ignore everything down to Owen, Saint-Simon, and Fourier in the early part of the nineteenth century. The French Revolution followed Rousseau in a respect for private property which was almost pious. François Babeuf's communist plot had practically no connection with later theories.[1] Sismondi, who lived from 1773 to 1842 and began writing economics in 1801, was hardly less bitter than Owen, or even Karl Marx, in his criticism of the existing order. Nor was he much more popular with the "Orthodox" school, as he

[1] Louis Blanc followed Saint-Simon, Fourier, and Sismondi mainly, but is known to have read the writings of Buonarotti, a survivor of the Babeuf plot.

dubbed writers like Malthus, Ricardo, and Say. "We might almost say," he exclaims, "that modern society lives at the expense of the proletariat, seeing that it curtails the reward of their toil." Yet he never made an economic attack on the institution of private property. He was not a socialist.

Socialism in one of its aspects was a revolt against some of the most fundamental principles of the French Revolution. These were written largely in the language of the Physiocrats, good bourgeois *Économistes*. To the Revolution, all forms of association were anathema and private property was sacred. The early socialists set out to destroy private property by means of associations — communities, phalanges, etc.

If any one doubts the force of ideas, or thinks that this bears any close relationship to their soundness or original intention, let him trace the labor-value doctrine, foreshadowed by Adam Smith and crystallized by Ricardo. Nobody believes it now but the socialists, and some of them repudiate it. We find echoes of it in Sismondi, who was Ricardo's antagonist, and who, though not a socialist himself, came very near to writing a source book of their most important doctrines. Robert Owen based his theories upon it. The Irish socialist, William Thompson, elaborated the labor-value doctrine into something very like the form used by Karl Marx decades later. Rodbertus confined himself to the assertion that labor was the real source of every *product*, and mentioned the equality of its *value* with the quantity of labor expended as an "ambitious ideal" — though he never denied it as a fact. The labor theory of value was the keystone of the Marxian arch, and Lassalle preached it far and wide as the "brazen law of wages" ("iron law," we say in English). There is a certain humor in contemplating the use of a doctrine of Ricardo the banker to kindle revolutions, and finally, in the twentieth century, to overturn a great empire.

Thompson was perhaps the clearest thinker of these Utopian socialists, but we cannot be certain that his writings

had any great lasting effect.[1] Both Owen and Fourier gain a certain picturesqueness from their personal activities. Of the more famous Fourier phalanges, the stove and grate factory of Jean Godin at Guise survived, and Brook Farm in Massachusetts did not. A number founded later in France still exist. Owen's original factory community at New Lanark prospered under his personal guidance, but others failed, including one at New Harmony, Indiana, in the United States. Perhaps his strongest claim to immortality is the part he played in establishing the Rochdale coöperative stores, which he regarded as a minor feature of his work. His influence in the passage of factory acts has been mentioned above.

Owen wanted to abolish profit, which he thought prevented the laborer from repurchasing the product of his toil, led to overproduction, and thus led to such economic crises as had just occurred in 1815. He tried out a very foolish scheme for issuing labor-currency in place of money. This scheme has appeared in the writings of later socialists from time to time. Fourier would have tolerated interest as legitimate. After all, Fourierism was at bottom a scheme of coöperation and profit-sharing. If we are willing to accept a few modifications, we can say that it still has an enormous vogue in France, and might very well have had a greater one but for the onset of Marxism.

Saint-Simon's own influence was chiefly personal, but a group of his immediate followers gathered up and systematized a really important body of doctrine after his death. Interest and rent were regarded as a tax levied upon the labor of others, but the profit of the entrepreneur is regarded merely as payment for his labor of direction, and therefore just if it is not excessive. To them wealth was an instrument of social production, and they railed at the idea of its transmission by inheritance without regard to the fitness of the recipient to fulfill the implied obligations to society. Their

[1] The most important of his works was: *An Inquiry into the Principles of the Distribution of Wealth most Conducive to Human Happiness*, 1824.

socialistic State would be a sort of bank or repository of the wealth of the country, passing it out to people according to their capacity and special talents. Note that it did not contemplate equality, except in the Napoleonic sense of a "career open to the talents." Saint-Simonism in its final form was socialism, not the communism sometimes distinguished as "Utopian." Marx was an abler man and a better scholar than any of its promoters, but the claim of his socialism to be more "scientific" is open to dispute. Engels reproached them with their failure to anticipate the doctrine of surplus value, a rudimentary form of which, we might remark, was a source of weakness to the thought of Owen. The Saint-Simonians had a system of historical stages to prove the advent of socialism. It differed from Marx's, but can hardly be called less evolutionary or "positive." [1] This group was prosecuted for illegal association in 1831 and practically broken up. The new leader, Enfantin, had already carried the movement off into ethics and religion.

All these early socialistic movements seem to have got into more or less trouble about their handling of the problem of the family and the position of woman. Leaving their practices and some of their more radical schemes aside, we may note that items which would hardly attract attention to-day were then considered scandalous and revolutionary. For instance, Thompson wrote a tract in 1825 entitled: *An Appeal of one Half of the Human Race, Women, against the Pretensions of the other Half, Men.* Unexciting as this looks now, one simply did not say such things in those days, before the rise of organized feminism. John Stuart Mill, a student of the early socialists, much later expressed similar views in a famous essay.

Louis Blanc was one of the "little men of great influence" who are continually cropping up to remind us how impossible some things would be to predict, and how difficult even to

[1] Saint-Simon's suggestion that the feudal, legal, and industrial periods in the development of government correspond to theological, metaphysical, and scientific régimes has led to a claim that he, not Auguste Comte, was the real originator of the "positive philosophy."

explain plausibly after the fact. He was a journalist of no particular distinction who had made some attacks on the corrupt "July Monarchy" of Louis Philippe (1830–48). By 1840, the Saint-Simonian movement had definitely died down, and the associationists like Fourier, Owen, and Thompson were obviously not making any great headway against the current economic organization. The *Organisation du Travail* for which Blanc is known appeared as an article in the *Revue du Progrès* in 1839, was published as a pamphlet in 1841, and immediately ran through many editions.

The central theme is a condemnation of competition which, reminds us of Sismondi, whom Blanc had read. Competition must be destroyed, root and branch, or it would exterminate the proletariat and ruin the bourgeoisie. His cure was little more than the simplest type of voluntary producers' coöperative, formed of men of the same trade. It had already been proposed by a Saint-Simonian named Buchez, with the difference that he was interested in smaller industries and did not regard public assistance as necessary. The Government was to aid in launching these "social workshops." Supposedly they would be so efficient as to drive their competitors out of business, and general socialization would be the eventual result. Blanc's vogue was evidently due to the extreme simplicity of his scheme and the timeliness of his agitation. No great effort and no special machinery were to be required. The State was asked to give a trifling and momentary aid to start a movement destined to destroy it. This idea of state responsibility was to be a powerful weapon in the hands of Lassalle, and an important item in the reasoning of Rodbertus. Blanc did not originate it, but he popularized it. For that reason we must count him among the fathers of state socialism. He himself was thrust into the foreground by the revolution of 1848 in France, hoodwinked and baffled by his enemies, and dropped into obscurity.

Proudhon's book, *Qu'est-ce que la Propriété* (1840), appeared at approximately the same time as Blanc's best-known one, and was also widely read. Its famous thesis, that "all

property is theft," was made the basis of a general attack upon existing economic society, with emphasis upon the exploitation of labor. He was an extreme individualist, and is best known as one of the founders of modern anarchy. In a sketch of a solution, he foreshadows Kropotkin's ideas on mutual aid. He had one of the most brilliant minds of his time.

It is quite possible, in spite of the conventional view, that Proudhon's greatest influence was exerted through the socialists. Nothing could be more scathing than his criticism of Saint-Simon, Fourier, and even Blanc. Communism was to him "The religion of misery." It was Proudhon's *Système des contradictions économiques*, published in 1846, which led Karl Marx, as a socialist, to attack him the following year in a book entitled *La misère de la philosophie* ("The Poverty of Philosophy"). Proudhon's objection to the existing institution of private property was on the ground of its failure to recognize the primary factor in production, land and capital being useless without it. Property must be retained, but purged of its elements of unearned income, of the exploitation of labor, and of the restrictions it placed upon the freedom of work and exchange. Marx's ideas resemble Proudhon's at so many points that he has often been charged with borrowing as well as refuting. In justice to Marx, it might be asked if any idea can ever be "new" except in the sense of correcting and rearranging previous ones.

Karl Rodbertus (1805–75) belongs both to the period when socialist economic theory was being formed — let us say, for convenience, up to 1848 — and to the later one of more permanent organization. He was an "early" socialist in the sense that his *Die Forderungen der arbeitenden Klassen*, contradicting Bastiat's notion that the share of the working class in the fruits of production tended to increase, was finished in 1837, and other important work on economic doctrine appeared before (as well as after) the middle of the century. His rôle in the later organization period was always that of thinker and counselor. Both personally and

through his writings, he influenced Lassalle, Bismarck's friend and a great figure in the development both of state and of revolutionary socialism. Due in part to Lassalle, Rodbertus was recognized and his work highly esteemed by some of the best-known economists of Germany, notably Adolf Wagner, who was to play a leading specific part in the growth of state socialism. Because he was not personally an organizer or a propagandist, it is harder to estimate the influence of Rodbertus upon events than that of Lassalle or Karl Marx.

While this is no place to go into the nice details of systems of thought, the remark should be made that Rodbertus need not be the mysterious figure in socialist doctrine which he is often pictured. Most of the mystification of those who so view him is due to the clearness of his own reasoning. Enlarging upon Adam Smith's idea, he regarded human society as a kind of organism, resting upon the division of labor. Considering the individual as merely a contributing and not at all self-sufficing factor from the economic point of view, he condemned "economic liberty" as a fallacy, and picked upon the State as the historic institution best fitted to become a conscious coördinating agency. To his mind, effective demand, expressed in terms of money, was entirely insufficient as a control of production, since only those with purchasing power could make their wants felt. What he wanted was a system in which social need would play a larger rôle in calling goods into existence, perhaps in the end entirely supplanting money power as the controlling factor.

He stressed manual labor as the characteristic sacrifice[1] of

[1] Like the other socialists, Rodbertus was little impressed with the "sacrifice" of the "lolling capitalist." In N. W. Senior's *Outline of Political Economy* (1836), the word "abstinence" had been used to explain the accumulation of capital. By this he had meant a "delay of enjoyment" on the part of those possessing property, leading to use in production instead of its immediate consumption. This was an important addition to Ricardo's notion of value, and quite in line with it, since the emphasis was laid upon limited supply as a source of value.

Rodbertus also developed a theory of crises, foreshadowed in the writings of Sismondi and Owen. Goods overaccumulate, he thought, because of the restricted purchasing power of the workers, due to their decreasing share in the produce of their labor.

irreplaceable time and energy back of the creation of goods, and criticized the existing machinery of exchange for allowing exploitation of the workers. Unlike Marx, he avoided mixing the working principles of the system before his eyes with those of the one he hoped might appear. *Ideally*, labor ought to command its entire produce, which would make it the measure of value, but he never said that it *was* the measure of value in the existing economic order. To achieve this, private property and individual production would have to disappear. Rodbertus was a landowning liberal rather than a revolutionist. He had no confidence in the judgment of the masses as to what was good for human society, and hence for them in the long run. His system of wage-coupons whereby the State might immediately guarantee to the workers a certain share in the general progress will not bear analysis. Considering that he objected to "economic liberty" and thought that as much personal freedom would exist under his "Christian-Social" State as under those existing, there is nothing particularly inconsistent about his tolerance of the idea of monarchy. He was a sort of "Fabian State Socialist," though he objected to the state socialism of the Eisenach conference of 1872, which will be mentioned in a little more detail below. While he did not like the doctrines of actual state socialism, his thought did a great deal toward forming them.

NEW ECONOMIC IDEAS

(c) ORGANIZED SOCIALISM

The mention of Christianity and of the rising nationalism of economists like List brings before us two new schisms in socialist thought which were largely to replace those of the early or formative period. Both drew their organized strength from institutions already in existence. The prestige of the Church was old and deeply founded, and the national state, that "most august creation of man," was coming into its own at a rate suspected by comparatively few people even in 1850.

Christian Socialism, or "Social Christianity," as some of its various exponents have preferred to call it, can be mentioned only in passing. Some of its adherents have wanted to make peace with the more radical movements of the nineteenth century and aid in establishing a world of workers, without the direction of private capitalists. Others would not greatly change the material aspect of the existing order, but want to set up Christianity as a vital moral authority over all classes, able to resolve their conflicts. Between these, there are numerous shades of opinion. Almost the only common elements in the vast number of programs have been their hostility to the *laissez-faire* economic liberalism of about 1850 and their desire, as Christians, to avoid the materialism which characterized the maturer socialist movement beginning about that time.

A Protestant might call himself a Christian Socialist merely because he recognizes that individual salvation is inseparable from social environment. A Catholic may not, like a Protestant, be an out-and-out socialist. Many Social Catholics have objected strongly to state socialism. The commonest idea has been to organize corporations or unions resembling the medieval type, with the hope of somehow connecting these associations with a reorganized State. Any movement of the working class alone radically to change its status is frowned upon from Rome as actual socialism. Protestant socialists have accomplished a good deal individually and in groups, but the organized movement is certainly not an important factor to-day, so far as appearances go. Even Catholic socialism is not really united as to aims. Its inconspicuousness, even in most Catholic countries, is not hard to explain. To rejuvenate the existing order, it would have to have a dependable *majority* — including converts to its social program from interest or moral conviction and Catholics amenable to religious discipline on economic matters. There may be some prospect of such a revival, but to deal with it here would be doubtful prophecy or idle speculation.

State socialism represents a strange mixture of antidote,

synthesis, and compromise. The German historical school of economists was fairly friendly to it, and some members finally championed it. Lassalle was one of its founders only in the sense that he wished to use the State to introduce an order which would eventually be real socialism, which state socialism is not, inasmuch as it rests upon private property. Rodbertus was a founder in that same sense, although he was more of an economist and less of a political compromiser.

Ferdinand Lassalle (1825–64) had been a Marxian (even in the intimate sense that both were profound students of the philosopher Hegel), and probably retained most of his original intellectual preferences to the end. He wanted to be a political leader, however, in Germany. For that purpose, he had to have a definite and immediate program which would not cause his expulsion from the country, alienate the liberal reform element or frighten a large fraction of the working class. When he returned to politics in 1862, after fourteen years of other preoccupations, his two main proposals were universal suffrage and state support of producers' associations. On the political side, he could count on the liberal discontent with Bismarck's new forceful policies. His attack on the economic order was based, like Marx's doctrine, on Ricardo's "iron law of wages."

Coöperation was a timely issue just then — Schulze-Delitzsch had waged a more or less successful campaign for establishing coöperative credit societies among artisans since 1849. As pointed out above, state interference was not so unpalatable to German economists as to most of the others. Lassalle built up the prestige of Rodbertus to strengthen this advantage. German nationalism had been given an economic turn by the *Zollverein* or customs union and the protectionism of such men as List. However remote it may seem today, Hegel's epic of the long struggle of mankind for liberty, waged against natural forces, oppression, want and ignorance, eternally striving for the highest forms of union as tools to work out the destiny of the race, is not to be ignored as a coördinating principle which touched all these reform schemes

of the late nineteenth century. Lassalle's General Association of German Workers, founded in 1863, seemed to be a conquering army in the making, when he suddenly left it leaderless the next year, as the result of a duel. What of its forces were not dissipated were to be gathered up by the Marxians, the state socialists, and others, and used in a different way than he had intended. The great German Social Democratic Party dates its origin from 1863, and acknowledges Lassalle as its founder.

In the very year of Lassalle's death, Marx founded his International Workingmen's Association in London. Two of its representatives, Wilhelm Liebknecht and August Bebel, succeeded in winning over the Schulze-Delitzsch societies, which had been coöperative and educational, to socialism. In 1869, the Social Democratic Party had its formal beginning. It was divided and more or less discredited by a group of anarchists, led by Bakunin, and finally joined forces with Lassalle's General Association of German Workers in 1875, keeping the Marxian name but dating its origin from 1863.

State socialism in practice dates from Bismarck's attempts to suppress the socialistic propaganda of this group, undermining its moral influence at the same time by imitating the program of Rodbertus and Lassalle. Its formal beginnings had taken place earlier. The German historical school of economists had been issuing a journal since 1863, to propagate its idea that economic principles should be accepted only with broad reservations as to time, geography, and circumstances. A conference of economists, professors, administrators, and jurists had met at Eisenach in 1872, issuing a manifesto against the *laissez-faire* school and in favor of the State as a great moral and educational institution, adapted to "enable an increasing number of people to participate in the highest benefits of civilization." A *Verein für Sozialpolitik* had been organized to prepare the way. Professor Schmoller drew up the manifesto, and Professor Wagner plunged into the composition of his *Grundlegung*, which appeared in 1876, to support the program.

Bismarck used the exact amount and kind of the proposals of the state socialists which suited his purpose of combating socialism proper and tying the working classes to the Imperial Government. In 1881 he began his campaign to establish accident, sickness, and, later, old age insurance which led to the laws of 1883–89. He frankly avowed his purpose of creating "700,000 annuitants among the very people who think they have nothing to lose, but who sometimes wrongly imagine that they might gain something by a change." Because it did not seem to offer the same practical advantages, his attitude toward industrial regulation proper was much cooler. It had to wait for the enthusiasm of a new Emperor, William II. State ownership of certain great public utilities was accepted on principle in Germany, rather than judged by standards of convenience, even against a handicap of doctrinal prejudice, as in some other countries.

Marxism, as economic doctrine, offers curious contrasts and similarities to the contemporary but rival explanations of the same phenomena. Karl Marx was a many-sided person. As a philosopher, he was very proud of his materialistic revision of Hegel's method. He knew a great deal about English industrial conditions and their immediate historical background; but he has been criticized for the sources of the earlier history which he used so freely to establish the trend of evolution, and for his imperfect grasp of the newer scientific thought.[1] As a theorist, it has been suggested that his work might be regarded as an attempt to correct, round out, and therefore supplant, that of Ricardo. Finally, not only was he associated with Engels during the most productive period of his life, but the latter brought out two of the three volumes of *Das Kapital* itself, and we do not know exactly what shape the material was in when it changed hands. The title

[1] See Georges Sorel's preface to the French translation of A. Labriola's *Karl Marx, L'Économiste, Le Socialiste*, Paris, 1923, pp. xix ff., and the references to Sorel's earlier articles. Veblen has commented on the mixture of Hegelian and Darwinian evolutionary thought in Marxism, in his essay on "The Socialist Economics of Karl Marx," in *The Place of Science in Modern Civilization*, pp. 433–46.

"scientific socialism" was derived from an expression of Engels in 1877, who based the claim for Marx on two discoveries: the materialistic conception of history and the theory of surplus value.

Since we are here concerned only with doctrines which produced indisputable effects, perhaps the task of selection is not so hopeless as it seems at a glance. Back of the two suggested by Engels lies the idea of a class struggle between exploited and exploiters. This had more or less died down when the Russian Revolution and various others incident to the dislocations of the World War brought it to the fore again. Whether or not the Bolsheviks are true Marxians does not alter the fact that the call of the Communist Manifesto for proletarians to unite, throw off their chains, and gain the world reached them across the decades and produced effects.

The materialistic conception of history is a terrain avoided by all prudent angels, and one approaches it with a sense of its pitfalls and possibilities for ambush. Whatever Hegel's shortcomings before the Marxian reconstruction, we can at least appreciate his famous remark that history teaches us that it can teach us nothing; which meant, in its original setting, that reflection on what people think history has taught them does not inspire to optimism. If Marx banished any brooding or indwelling spirit from history, he at least kept the Hegelian dialectic or method of reasoning. In the preface to the second edition of *Das Kapital*, Marx asserts that Hegel's "Idea" — a sort of personified thought-process — was conceived as "the demiurge of reality, which is only the phenomenal form of the Idea"; whereas he, Marx, held the movement of thought to be merely the reflection of the material world in the human brain. Having removed this "mystic side" of Hegel's method, Marx proceeded to use it in what he called its "rational form," to prove that a "positive conception" of the existing order betrayed its negation and inevitable destruction.

Bernstein, who was none other than the literary executor

of Engels, split socialist doctrine wide open and started a revisionist movement in 1897, through attacking the use of this ponderous and antiquated Hegelian method of historical reasoning by wading through contradictions to get at truth.[1] This would have involved throwing overboard the historical proof of the inevitable downfall of capitalism, turning opportunist and letting the final goal take care of itself. Kautsky wrote a book defending orthodox Marxism [2] on the ground that Marx would not have put his views on the future of capitalistic property in the dialectic form without having first observed the march of irresistible forces in contemporary history. "What would remain of the Marxian method," he asks, "robbed of the dialectic which has been its best working tool and its sharpest weapon?" Nevertheless, revisionism was practically supreme in Germany within a few years.

This dispute brings up a very broad question as to the function of history, the usual answer to which a century ago was that of Marx, whereas to-day it is oftener that of Bernstein. One view is that history is simple enough to be arranged in trends for use in making fairly broad prophecies about the future. The other is much humbler in the face of the complications which present themselves. It often takes a highly trained and intelligent worker years to bridge one little gap in

[1] To the Hegelians, truth, being a synthesis of various views with elements of falsehood in them, must be reached by passing through contradictions. Engels illustrated this by taking a quantity a, making $-a$ of it by denying it, and then multiplying $-a$ by $-a$ to get $+a^2$, or the original quantity raised one degree for having passed through the negation.

[2] Bernstein first wrote a series of articles in *Die Neue Zeit* in 1897. He was profoundly influenced by Webb and the English Fabians with whom he had become acquainted during his residence abroad. His book appeared in 1899. The English translation (London, 1909) is entitled *Revolutionary Socialism; a Criticism and an Affirmation.* Kautsky's reply was entitled *Bernstein und das sozialdemokratische Programm; eine Antikritik.* Bernstein's criticism was timed just after a defeat at the polls in Germany. Openly socialistic propaganda had been severely repressed by law from 1878 to 1890. The Social Democrats had met in 1891 and drafted a new political program, known as the "Erfurt Program," revising the Gotha document of fifteen years earlier. The revision drops all the earlier anarchistic tendencies and includes some items which suggest the competition of state socialism. For a good brief summary of socialism in German politics, see Ogg: *Economic Development of Modern Europe*, chap. XXII. See also Dawson: *Evolution of Modern Germany*, chap. XXII.

our knowledge of the past, with fairly solid ground to build on at each side and many fragments to indicate what has been. What kind of an enterprise, then, would it be to project the whole vast theme of history, including the unrecorded and misinterpreted millions of events, into the still empty space of the future, with no pillars but the clouds for the other end of the span and not even débris for a guide? The economists who made these queries would rejoice to see the inherited part of the present better understood, and even a little light thrown upon the immediate future for which practical provision must be made. It is pleasant to dream of seven-league boots, and some day we may possess them, but the first need is to learn to walk straight. We have had so many logical and geometrical general formulas for history, ending in "Q.E.D.'s," that we have grown wary and begun to demand accurate work on concrete problems.

This attitude would lead to two comments on the Marxian labor theory of value and the multitude of preceding labor-value doctrines: First, the amount of labor which enters into the production of an article is not a reliable or useful measure of its value under the present régime of private property. Economists are pretty generally agreed about this. Second, it cannot be stated positively what the measure of value will be in any future system *which can be set up and made to work*, until it is in operation, and thus made subject to actual detailed observation.

Such criticisms do not destroy the value of Marx's work as economic doctrine. Some of his analysis is extremely penetrating, and has not always been properly appreciated by those who are skeptical about his dialectic. On the other hand, Kautsky did not underestimate the latter as a tool for shaping conviction or a weapon in the war of interests. Tools and weapons grow dull from constant use, however, and competitors rise up to make them obsolete. The most immediately dangerous rival in this case was state socialism. By attacking the practical problems in detail, it tended to split the actual socialists into groups, and to organize these as

political parties. At first, some of them refused to coöperate in working for practical aims, for fear of thinning and compromising the pure doctrine of the founders and jeopardizing the "coming revolution." In the end they gave in, almost without exception, with the result that the movement became more political than economic in western Europe, many people voting "socialist" tickets who neither looked forward to a proletarian revolution nor had any deep convictions about the abolition of private property. We shall be obliged to allude from time to time to this new type of political history, founded on pretty clearly defined economic interest-groups.

This leads to a final remark about the "materialistic conception of history." Many socialist writers still cling to it in the modified form of a rigidly "economic interpretation." All motives are traced back to economic ones, which thus become practically "causes," in the mechanical sense, of events and changes. In this extreme form, the "economic interpretation" rests upon a "conception"; and a general "conception of history" is for all practical purposes a "philosophy of history" under a slightly different name. Even where the *method* of research is truly scientific, in the sense of being accurate, properly controlled, and fruitful, this does not in itself demonstrate the soundness of the philosophy (conception, or system of general assumptions) — or disprove it. Avowed philosophies of history are a little out of fashion, but actual ones are with us still under various pseudonyms.

SUGGESTIONS FOR FURTHER READING

*Ashley, W. J.: *The Economic Organization of England*, lectures VII, VIII.
Beer, M. A.: *History of British Socialism*, 2 vols.
Bernstein, E.: *Evolutionary Socialism: a Criticism and an Affirmation.*
*Bland, A. E., Brown, P. A., and Tawney, R. H.: *English Economic History, Select Documents*, part III, sec. I.
*Clapham, J. H.: *An Economic History of Modern Britain*, chaps. IX, X, XIV.
Clarke, A.: *The Effects of the Factory System.*
Cooke-Taylor, R. W.: *The Modern Factory System.*
Dawson, W. H.: *Bismarck and State Socialism.*

Dawson, W. H.: *German Socialism and Ferdinand Lassalle.*
*——— *The Evolution of Modern Germany,* chap. XXII.
Dunlop, O. J., and Denman, R. D.: *English Apprenticeship and Child Labour.*
Ely, R. T.: *French and German Socialism in Modern Times.*
Engels, F.: *The Condition of the Working Class in England in 1844.*
Ghio, Paul: *La formation historique de l'économie politique,* chaps. 7, 8, 9.
Gibbins, H. de B.: *Economic and Industrial Progress of the Century,* chaps. XXXIX–XLIV, LXIII.
*Gide, C., and Rist, C.: *A History of Economic Doctrines from the Time of the Physiocrats to the Present Day,* book I, chaps. II, III; book II, chap. II; book IV.
Hammond, J. L. and B.: *The Town Labourer,* chaps. I, II, VIII, IX.
——— *The Skilled Labourer,* chaps. V–XI.
*——— *The Rise of Modern Industry,* part III.
Held, A.: *Zwei Bücher zur Sozialen Geschichte Englands.*
Hobson, J. A.: *The Evolution of Modern Capitalism,* chaps. III, IV.
Hutchins, B. L., and Harrison, A.: *History of Factory Legislation,* pp. 1–42.
Hutt, W. H.: "The Factory System of the Nineteenth Century," in *Economica,* March, 1926.
Kirkup, T.: *History of Socialism.*
*Labriola, Arturo: *Karl Marx, l'économiste, le socialiste.* Introduction by Georges Sorel.
*Lewinski, Jan St.: *The Founders of Political Economy.*
*Macgregor, D. H.: *The Evolution of Industry,* chaps. I–III, VIII, IX.
*Marshall, L. C.: *Readings in Industrial Society,* pp. 451–69, 569–633, 782–823.
*Marx, Karl, and Engels, F.: *The Communist Manifesto.* Reprinted in Bullock, C. J.: *Selected Readings in Economics.*
Marx, Karl: *Capital,* vol. I, chap. 15 (and *passim*).
Menger, A.: *The Right to the Whole Produce of Labour.* With a notable introduction by H. S. Foxwell.
*Meredith, H. O.: *Outlines of the Economic History of England,* book IV, chaps. III, IV, VI.
*Perris, G. H.: *Industrial History of England,* chaps. II, III.
Schultze-Gaevernitz, G. von: *The Cotton Trade in England and on the Continent,* chaps. I, II.
Seligman, E. R. A.: *The Economic Interpretation of History.*
Simkhovitch, V. G.: *Marxism vs. Socialism.*
Skelton, O. D.: *Socialism: a Critical Analysis.*
Slater, G.: *The Making of Modern England.*
Smart, W.: *Economic Annals of the Nineteenth Century, 1801–20,* chap. XXX.
Sombart, W.: *Socialism and the Social Movement.*
Spargo, J., and Arner, G. B. L.: *Elements of Socialism.*
Tawney, R. H.: *The Acquisitive Society.*
Toynbee, A.: *Lectures on the Industrial Revolution of the Eighteenth Century in England,* chap. VIII.

Ure, A.: *The Philosophy of Manufactures.* London, 1835.
*Usher, A. P.: *An Introduction to the Industrial History of England,* chap. XIV.
Veblen, T.: *The Theory of Business Enterprise,* chaps. I, II, IX.
——— *The Instinct of Workmanship,* chaps. VI, VII.
Wallas, G.: *The Life of Francis Place.*
*Webb, S. and B.: *History of Trade-Unionism,* pp. 24–101.
Weber, A. F.: *The Growth of Cities in the Nineteenth Century.*

CHAPTER V

DEVELOPMENT OF ENGLISH AGRICULTURE SINCE 1800

By 1850 the separation of industry from agriculture was an accomplished fact. Factory production had gradually taken the place of the domestic system. The enclosing of land for agricultural purposes, which had begun on a formidable scale during the second half of the eighteenth century, had resulted in an almost complete elimination of open-field culture. Although great improvements in agricultural technique had been introduced previous to 1850, it was also true that many forces which had beneficially influenced agriculture in earlier days had almost completely disappeared. Thus the small tenant class, for centuries an important factor in agricultural progress, had been largely eliminated. Moreover, large-scale production in agriculture took a firm hold and even threatened the complete extinction of small holdings. But the larger problems with which English agriculture had to contend during the nineteenth century were the inevitable result of improvements in the means of communication which opened up growing markets for the products of English industry while enabling England to get in exchange the cheap food products and raw materials of the new lands across the seas.

The growth in population following the Industrial Revolution stimulated an ever-expanding market for agricultural products. To a surprising extent English agriculture was able to supply this growing demand, yet imports of wheat and wheat flour rose from an annual average of more than 600,000 quarters [1] in the decade 1801 to 1810 to about 458,000 quarters from 1811 to 1820 and from 534,000 quarters in the decade 1821 to 1830 to 907,000 from 1831 to 1840, finally reaching

[1] A quarter is eight bushels.

2,588,000 quarters from 1841 to 1849, a condition explained in part by the precarious food situation resulting from the potato famine in Ireland. The following table presents a comprehensive picture of the increase in English imports of wheat and wheat flour from 1776 to 1842.[1] For comparison, the exports are included. It will be noted that the reliance of the British consumer on foreign-grown foodstuffs increased steadily.

Year	Exports (quarters)	Imports (quarters)
1776	210,664	20,578
1780	224,059	3,915
1786	205,466	51,463
1787	120,536	59,339
1789	140,014	112,656
1791	70,626	469,056
1796	24,679	879,200
1801	28,406	1,424,765
1808	98,005	84,889
1810	75,785	1,567,126
1815	227,947	384,475
1825	38,796	787,606
1837	308,420	1,109,492
1839	45,512	3,110,729
1842	68,047	3,111,290

Let us also consider the price which the English farmer received for his products. In the five decades from 1770 to 1819 the average annual price of wheat rose, but this fact must not be taken as an indication in itself that the condition of the English agriculturist was improving, for violent fluctuations in the price of this cereal did much to interfere with his continued prosperity. Deficiency in the harvest raised the price of wheat to 113*s.* 10*d.* per imperial quarter in 1800, to 119*s.* 6*d.* in 1801 and to 126*s.* 6*d.* in 1812. The harvests of the next three years were more favorable, and prices again decreased to 65*s.* 7*d.* in 1815.

The decline in the price of agricultural products which began during the Napoleonic wars produced a condition in England which was extremely critical. Whatever artificial aid the English agriculturist had received from the isolation caused by these wars was withdrawn once peace was restored

[1] McCulloch's *Commercial Dictionary* (1847), p. 438.

on the Continent. It was urged by many that the severity of the depression faced by tenant farmer and landlord would be mitigated by the imposition of heavy import duties on farm products. In an attempt to protect the interests of these classes the famous Corn Law of 1815 was passed. By the terms of this act, foreign wheat might not be imported unless the domestic price was 80*s.* or more per quarter (about $2.50 a bushel). Other cereals likewise received protection. Because of poor crops in 1816 and 1817, prices rose, reaching 96*s.* 11*d.* in 1817. A decline followed which, with the exception of a few years, continued until the outbreak of the World War. It should be noted that the low prices for cereals did not seriously endanger the position of the agriculturist until after 1875.[1]

In 1828 the Corn Law of 1815 was modified to permit the importation of wheat upon payment of a tax of 36*s.* 8*d.* when the price rose to 50*s.* If the price advanced to 73*s.* the tax was to be reduced to 1*s.* Again in 1832 the rates were modified to the extent that importation of wheat could take place upon payment of a tax of 20*s.* if the price rose to 50*s.*; should the price increase to 65*s.* the tax was to be lowered to 7*s.*

The protection which the Corn Laws extended to the grower of cereals was in itself insufficient to improve the general condition of agriculture. The small proprietors and tenant farmers were sorely distressed by high rents and by their inability to obtain necessary credit. Rather than continue a meager existence or incur indebtedness, many gave up their lands, this adding still further to the concentrated holdings which were now increasing rapidly throughout England. In the late thirties changes in agricultural technique began to exert a distinct influence. Improvement in the means of inland transportation — extensive road and canal construction, but particularly the building of railways — greatly facilitated the distribution of agricultural products. It was thought that these developments, combined with a policy of protection, would enable England to become completely indepen-

[1] Curtler, W. H. R.: *A Short History of English Agriculture*, pp. 350–53.

dent of foreign foodstuffs. The policy of making the country self-sufficient through the medium of a burdensome system of protection was, however, soon to be abandoned.

FROM THE REPEAL OF THE CORN LAWS TO 1875

The history of English agriculture from 1849 to 1914 divides itself into two distinct periods. The first began with the elimination of the Corn Laws (1846–49) and ended in the seventies; the second began in the seventies and lasted until the outbreak of the World War.

The repeal of the Corn Laws, which had long been agitated by Richard Cobden and the Anti-Corn Law League, marked the conclusion of a distinct epoch in English agrarian history. These laws, looked upon by the agrarian interests as their only safeguard against complete annihilation, were withdrawn in the face of bitter opposition, and England entered an era of extensive trade liberation. That the supporters of the Corn Laws had exaggerated their true significance may be seen from the fact that agriculture prospered after their repeal, even though prices temporarily dropped in 1849 and remained low until 1853. The domestic producer, however, was no longer able to support the rapidly growing industrial population, and the home-grown products were supplemented, though not as yet displaced, by foreign products. It is well to bear this fact in mind, since the conditions of this competition changed in later years and became a source of grave danger to the prosperity of English agriculture.

Scientific methods of drainage, introduced in the thirties, were rapidly extended after 1850. Wider use of artificial fertilizers was made possible through the importation of guano from Peru and of bones from the prairies of South America, the former used in the grain fields, the latter for fertilizing root crops. New crops were introduced and the practice of crop rotation was greatly extended. Equally significant improvements in farm machinery were made. Harrows, clod-crushers, grubbers, plows, cultivators, drills, and mowing, reaping, and threshing machines of improved

construction were put into operation. It is largely owing to these innovations that English agriculture was able to maintain a fair degree of prosperity until the last quarter of the nineteenth century. With the exception of the year 1860, the harvests were good. Prices, though at times low, were remunerative, partly due to the increased supply of the standard medium of exchange attendant upon the gold discoveries in California and Australia, which greatly stimulated trade and indirectly benefited the agricultural interests.

THE AGRICULTURAL DEPRESSION

In the last quarter of the century a serious agricultural depression swept over England. Of immediate importance in bringing about this situation were the devastating effects of sheep rot, cattle plague, and poor crops. The first indication of immediate peril came in 1875. Previous to 1874, the competition met by English agricultural products had been largely restricted to wool and the more important cereals. Up to that time English wheat fields had not seriously declined in area. But poor harvests in 1875, 1876, 1877, and especially in 1879 worked great hardship on the entire rural population. In 1879 nearly 3,000,000 sheep were lost through the rot. Foot and mouth disease and pleuro-pneumonia ravaged the herds of cattle, and the production of agricultural crops was below any figure reached since 1800.

This condition might have been overcome without unusual exertion on the part of those most vitally affected if it had not been of long duration, but the continual recurrence of disaster was bound to undermine the foundations of the agricultural life of the country. Under normal conditions it would have been possible to import foreign foodstuffs until the losses which had been incurred through poor harvests had been repaired; but the weakened home producer soon found it increasingly difficult, if not impossible, to enter the competitive struggle on equal terms with countries which had better facilities for growing agricultural products. His position was made infinitely worse by a general reduction in the price of

cereals, a logical consequence of the rapid increase in the world supply of agricultural products. From 1866 to 1870 the average annual price of wheat (per imperial quarter) was 54*s*. 7*d*., increasing in the next five years to 54*s*. 8*d*.; but dropping as low as 47*s*. 6*d*. from 1876 to 1880.[1] Until the last half of the following decade prices were still reasonably remunerative, but conditions became extremely critical after 1884. From 1891 to 1895 the average annual price was slightly below 27*s*.[2]

Hitherto, poor crops had meant high prices, but foreign competition had completely altered this condition. Improvements in shipping facilities and the lowering of transportation costs on land and sea brought the products of foreign countries much closer to the English market, thus adding to the already numerous difficulties of the home producer. Prices remained low until after the opening of the twentieth century, although some slight improvement is to be noted after 1894. A similar tendency is also to be observed in the case of rents.

Foreign competition, as we have seen, had early been a matter of public concern in England. Agricultural interests had demanded and had received vital assistance in the struggle against this actual or imaginary enemy. When danger seemed to be more real than ever before, protective measures were withheld, and the agricultural interests of England were compelled to enter the competitive struggle on a basis very different from that of earlier days, and at a time when foreign countries were extending their output far beyond the needs of their own people, and tendering part of their surplus in exchange for the products of British industry.

In the United States the vast wheat-growing areas were just beginning to influence the world market. Labor-saving devices, which were introduced during the Civil War to overcome a labor shortage, were now used to increase the surplus

[1] The same as in 1861 to 1865.

[2] In 1894 the price dropped to 22*s*. 10*d*. per quarter, the lowest point ever reached.

of agricultural products for export, and railway construction reached to the remotest corners of the country. The wheat fields of Argentina, of India, of Egypt, of Russia, of the Balkans and, more recently, of Australia and Canada, were also rapidly adding to the world's food supply.

AVERAGE ANNUAL IMPORTS OF WHEAT AND FLOUR[1]

YEARS	AMOUNT (cwt.)
1861–1865	34,651,549
1866–1870	37,273,678
1870–1875	50,495,127
1876–1880	63,309,874
1881–1885	77,285,881
1886–1890	77,794,380
1891–1895	96,582,863
1896–1900	95,956,376
1901–1905	111,638,817

[1] Curtler, *op. cit.*, p. 349.

As long as the costs of transportation were sufficiently high to offset any advantage which foreign countries might possess in agricultural production, competition was not to be feared. Freight rates declined, however, with the result that the domestic products were not merely supplemented but in part displaced by foreign-grown products. The reduction in price, already referred to, brought with it in time a reduction in rents, although at first the landowners refused to lighten the burden of the hard-pressed tenant farmer.

If the acreage under cultivation and the yield had continued even as before 1875, there would possibly have been little cause for alarm in the long run. As matters stood, a steady reduction took place in the acreage devoted to cereals, with heavy additions to the land already set aside for grazing. In 1871 just before the period of depression, the total number of acres of arable land under cultivation in the United Kingdom amounted to approximately 18,400,000. By 1914 this had been gradually reduced to 14,300,000 acres. The area devoted to wheat dropped from about 3,056,000 acres in 1879 to 1,456,000 in 1895; that of barley from 2,932,000 to 2,346,000. The increase in prices since the

nineties did not prevent arable lands from being turned into permanent grass, the latter increasing from 15,065,000 acres in 1883 to 17,335,000 in 1912.[1] At the same time the acreage devoted to wheat-raising alone increased from 1,456,000 in 1895 to 1,901,000 in 1900, an increase made possible by bringing under cultivation lands formerly devoted to the growing of other cereals. During the next ten years considerable fluctuation in the wheat acreage occurred, ranging from 1,408,000 acres in 1904 to 1,972,000 in 1912. The necessity for an increased food supply during the World War caused a substantial addition to the wheat acreage, the highest point being reached in 1918, when 2,796,000 acres were devoted to the raising of this one cereal. After the war emergency had passed, the total again declined — to 1,979,000 acres by 1920.

RURAL DEPOPULATION

Beginning with the late seventies, and accentuated in recent times, migration from rural districts was out of proportion to the actual acreage of arable land which had been withdrawn from cultivation, and to the displacement of labor through machinery. In 1851 the total number of agricultural laborers in England and Wales exceeded 1,713,000. Twenty years later, it had dropped to 1,457,000. Each succeeding decade witnessed a further diminution. By 1881 the number had dropped to 1,352,000; between 1891 and 1901 it decreased from 1,285,000 to 1,192,000.

THE REMEDIES PROPOSED

With conditions as described, it was natural that innumerable proposals for overcoming some of the difficulties of the

[1] Total arable land devoted to grain crops, roots, potatoes, clover and rotation grasses and other crops, including bare fallow:

Years (average)	Thousands of Acres
1879–1883	13,988
1889–1893	12,914
1899–1903	12,137
1909–1913	11,274
1919–1923	11,688
1924	10,929

farmer would be made — both practical and visionary, emanating from the Government and from private individuals. It is significant that, wherever in recent times the need has been felt for improving agricultural conditions, the proposals have almost invariably been strikingly similar, which would indicate that the roots of the problem are much the same. Plans for making rural life more attractive, provision for small holdings for the purpose of drawing part of the industrial population back to the land, duties on imported foodstuffs (both raw and manufactured), facilities for general and more technical education, promotion of combinations of agricultural laborers, and organization of coöperative enterprises, including credit institutions, are probably the most important measures which have been suggested as giving some hope of relief to an apparently desperate situation. But, after all, such remedies can be justified ultimately only if there is present a sound underlying basis for the existence of the industry which is thereby being stimulated. The adverse fortunes which English agriculture has encountered have been part of the costs of an extensive, and on the whole probably beneficial, adjustment of England's economic activities and her economic structure to a new world situation, which offered vastly greater opportunities to English industry than to English agriculture. A proposal which plans to increase the production of a given article at the expense of the consumer is usually economically unsound. To consider such agrarian measures independently would betray an entirely too narrow conception of their real significance. With the possible exceptions of restrictive laws pertaining to importation of foreign products and to nationalization of land, they might, if successfully carried out, help to make it possible for some types of English agriculture to compete more successfully with foreign producers, especially in the domestic market. The arable lands of England, even were they to be intensively cultivated, could not make her independent of foreign foodstuffs. Even if it were within the power of the Government to make such a condition possible, England would be the

loser. She would forfeit her share in the advantages of an international division of labor — a division of labor without which the great industrial countries of the world would find it impossible to continue to develop along the lines best suited to their national temperament, their climate, and their natural resources.

EXTENT OF LANDHOLDINGS

By the middle of the nineteenth century the open-field system, which was almost universal in England at one time, had practically disappeared, and enclosures had consolidated the most fertile regions of the country. All told, from 1700 to 1760, about 334,974 acres were enclosed, from 1760 to 1843, approximately 7,000,000 acres. Landholdings were also increased by bringing moorland and heath under cultivation and by careful drainage of lands which otherwise would have remained waste. In the century or more preceding the agricultural depression of the seventies, the tendency toward concentration of holdings was very evident. The advantages of production on a larger scale — the greater economies that could be effected and the opportunities for experimentation — made it profitable for the small landholder to sell his land in order to become a tenant farmer on a more pretentious scale. The small proprietor or tenant undoubtedly possessed certain advantages as against the large producer, but the disadvantages were increasingly greater. For a while production on a large scale finally threatened to undermine the small landholder and tenant farmer completely. Only in recent years has this tendency been checked.

ALLOTMENTS AND SMALL LANDHOLDINGS

As a partial solution of the problems arising out of the agricultural depression, it appeared desirable to make provision both for individuals who wished to supplement their livelihood by agriculture and for those who wished to engage in agricultural activity as a sole means of support. Efforts of private individuals and of the Government have

been directed toward increasing allotments and small holdings.

Distinction must be made between the allotment and the small holding, terms which have received a rather precise connotation in the laws of Great Britain. An allotment is an area of land only large enough partially to support the cultivator. According to the Acts of 1892 and 1907 it ranges from a quarter acre, or even less, to five acres; whereas the small holding, which may be bought or leased, will usually vary from one to fifty acres. Allotments had early been made by private individuals who either expected to receive some economic advantage or were guided by charitable motives. Sporadic, unorganized efforts of this sort were not sufficient to relieve the situation to any appreciable extent. During the latter part of the eighteenth and the early part of the nineteenth centuries, the allotment system was closely connected with the functions of the poor-law authorities, to whom was entrusted the purchase or lease for allotment purposes of lands sufficient to care for the most pressing needs of the community. It was late in the nineteenth century, when the agricultural condition of the country had become critical, that the Government finally took steps to introduce legislation which it was hoped would increase the number of small cultivators.

In 1882 the Allotment Extension Act was passed, the evident purpose of which was merely to supplement the private allotment system which had made considerable progress in some parts of the country. It soon became evident that the law was entirely too narrow in its scope and that it provided inadequately for the proper execution of its terms. New legislation was passed in 1887 which attempted to remedy some of the defects of the earlier laws. The law of 1887 provided that the local sanitary authorities could compel the owner to sell or lease such lands as were needed to provide sufficient allotments. That this procedure was unusual, and that far-reaching results might follow such a precedent, was probably little realized at that time. Usher states: "The

principle of compulsion that was applied to this small problem has been gradually applied in a constantly widening field, and the notion of the superior claims of the general social interest has thus become embodied in much important legislation." [1] Following the passage of the Act of 1887, the number of allotments increased rapidly. Thus, while there had been approximately 357,000 in 1888, the number rose to 455,000 in 1890. By 1895 it had reached a total of about 579,000. In spite of this apparent success, there were many observers who were pessimistic of the results which had been attained. Provisions for compelling the landholder to sell were essential to the successful operation of the allotment system. On the other hand, the indifference or willful disregard of the law by the parish authorities who administered its provisions also had to be taken into account. Not until the passage of the Small Holdings and Allotments Act of 1907 was this particular defect remedied. By the terms of this act, local authorities were compelled to provide allotments in numbers sufficient to meet actual need. This act was consolidated with earlier laws in the Small Holdings and Allotments Act of 1908. Thus the allotment system evolved, until to-day it has become a factor of some consequence in the economic life of England. Whatever its eventual results, it furnishes an interesting illustration of the difficulty of even guiding the main stream of economic development.

With the building-up of an allotment system has come in more recent years the growth of the small holdings movement. It was hoped that such holdings would add permanently to the rural population of Great Britain by giving to those otherwise unable to cultivate the soil an opportunity of obtaining land from the government authorities on reasonable terms. With this object in view, an act was passed in 1892, known as the Small Holdings Act. The defects of the early allotment system are also to be observed in the provisions of this act. County councils were given the power to buy land from proprietors who voluntarily agreed to sell. The extent of such

[1] *Introduction to the Industrial History of England*, p. 242.

land purchases, it should be understood, was left entirely to the local authorities. Such an arrangement was foredoomed to failure. As before, lethargy or willful disregard of the law became glaringly apparent. The Small Holdings and Allotments Act of 1907 substantially modified the principle upon which the entire system rested by introducing compulsory measures which did much to overcome the inaction of the past. Not only were the county councils themselves given the power to compel an unwilling landlord to sell, thus eliminating one of the alleged reasons for inability to extend the small holdings, but the newly created Small-Holdings Commissioners could in their turn direct a county council to take action upon plans which might be drawn up either by the council or by the Board of Commissioners. The original purpose of the small holdings movement was to sell plots of land, ranging from one to fifty acres, payments if necessary to extend over a period of years. It was not intended to encourage leaseholds. The history of the Small Holdings Acts has shown that the sale of such lands to settlers has been insignificant as compared with the amount which has been let out.[1] While this fact may be regretted by some, the form of tenancy provided for hardly deserves criticism. The land acquired by the county councils, either through purchase or lease, has been added to rapidly since 1908, and the total number of small holders has shown some increase. The ideal embodied in the Small Holdings and Allotments Acts has been furthered in recent years by several organizations,

[1] F. W. Hirst, writing in 1912 (Porter's *Progress of the Nation*, new ed., pp. 205–206) observed that "The chief hindrances to its [the Small Holdings Act of 1892] effective working lay in the inability of the county council to lease holdings over ten acres in size, in the absence of powers of compulsory purchase, and in the necessity for energetic and sympathetic administration of the Act by county councillors who had had extensive agricultural experience." "But," he added, "it is no doubt also true that small holders in the United Kingdom have to a great extent been lacking in that spirit of co-operation which is essential to their success, and to which the strength of the small holder in France, Germany and Denmark is largely due. The backwardness of England in this respect has been partly caused by the relatively great number of large estates which renders co-operation between the smaller a more difficult matter." Economic changes following the war have given a notable impetus to the breaking-up of these large estates.

notably the Allotments and Small Holdings Association of England. While the agrarian situation may have been improved somewhat by these measures, there are many who hold that the solution of the agricultural problems of the country calls for an even more far-reaching program. The Labour Party has declared for a policy of land nationalization, and an important wing of the Liberal Party is willing to go quite as far.[1]

DEVELOPMENT OF EDUCATIONAL FACILITIES

In an age of severe competition the need for new and better educational facilities becomes pressing. The simplicity of method which characterized economic activity in early days no longer exists. In industry, to be sure, division of labor has resulted in a lessening of skill on the part of the individual laborer, but organization as a whole has become vastly more intricate. In agriculture the situation to-day is not unlike that which prevails in industry. Science has been applied to the preparation of the ground, to the selection of crops best suited to the chemical properties of particular soils, to combating plant and animal diseases, and also to the administration of the farm through the introduction of better business methods, such as accounting systems.

A knowledge of these and other facts quite essential to successful farming requires not only practical experience, but careful study as well. Education of a formal nature has therefore become increasingly important. Countries where competition only slightly affects the agriculturist need give less thought to this question than those where the competitive struggle is keen. As early as 1793, a Board of Agriculture, a subsidized agricultural society, for the advancement of agricultural technique, was established in England, under the secretaryship of Arthur Young. In 1822 this organization disappeared, but the Royal Agricultural Society later (1838) assumed many of its functions. The present government Board of Agriculture was not established until 1889,

[1] Cf. *Rural Report of the Liberal Land Committee* (1923–25).

when agricultural conditions had become critical. This newly created board, in conjunction with the Board of Education, has recently been instrumental in carrying out an extensive program of education throughout Great Britain. Funds have been provided by both central and local governments for the equipment of experimental stations and colleges. Of the earlier agricultural colleges the one established at Cirencester in 1845 and the Aspatria College in Cumberland, organized in 1874, were the most influential, although both colleges have since been discontinued. Beginning with the successful efforts of Sir J. B. Lawes in the forties and encouraged by the efforts of the Royal Agricultural Society (incorporated in 1840), agricultural experimentation has advanced rapidly in recent years. Since 1909 the Development Commission has formulated a far-reaching program of agricultural research. Substantial government subsidies have been granted to a number of existing experiment stations and colleges to conduct research in plant pathology, plant-breeding, fruit-growing, dairying, agricultural economics, and allied problems. The number of institutions giving courses in agricultural subjects has been greatly increased. Yet educational facilities still remain inadequate, a fact to be accounted for in part, at least, by the conservatism of the English farmer. Nevertheless, judging by the amount of produce they get from an acre of land there is no evidence that English farmers are less efficient than those of other countries.[1]

ORGANIZATION OF AGRICULTURAL LABORERS

The future of the agricultural laborer may depend largely upon his ability to combine for purposes of mutual betterment, both economic and social. That this constitutes no mean task is clearly shown by the history of such organizations in countries where the attempt has been made to bring together the scattered forces of agricultural labor. The

[1] The evidence is ably reviewed by Professor D. H. Macgregor, in the *Economic Journal*, September, 1925 (vol. XXXV, pp. 389–97).

migratory nature of this class of workmen resulting from the seasonal character of its employment, and the fact that only relatively small numbers of such laborers are found in any one locality, are obstacles which usually militate against successful organization. These obstacles, however, have not prevented the experiment from being tried in Great Britain. The National Agricultural Laborer's Union, organized in 1872 under the leadership of Joseph Arch, had a remarkable but short-lived existence.[1] Since 1914 the organization of agricultural laborers has proceeded rapidly, as indicated by the membership in the National Agricultural Labourers' and Rural Workers' Union, which in 1920 had a total enrollment of approximately 200,000. However, due to the economic depression of 1921–23, the membership declined considerably.

It has often been maintained that only through such organizations will the agricultural laborer's condition be raised generally to the level of economic and social decency. This statement can hardly be refuted. If we agree with those who believe that the difficulties of organization are insuperable, then little hope exists for the agricultural laborer unless the Government, through legislation, provides him with the essential safeguards. Such measures as minimum wage laws, housing laws, insurance against the ordinary and extraordinary hazards of his employment may go a long way toward solving his problem.

Passage of the Corn Production Act in August, 1917, provided for a basic minimum wage of 25 shillings per week for agricultural laborers. The responsibility of enforcing the minimum wage was placed in the hands of the Central Agricultural Wages Board, and a careful plan for the administration and fixation of such wages was adopted. A basic minimum wage was established from time to time, and after investigation definite rates were determined upon for the various counties. On October 1, 1921, the Corn Production Acts (Repeal) Bill became effective, and the machinery for

[1] The membership in this organization declined from approximately 86,000 in 1874 to 1100 in 1894.

regulating and enforcing minimum wage rates was abandoned. To take the place of the Central Agricultural Wages Board and local boards, the organization of voluntary local conciliation committees was recommended, to determine wage rates, which could be legally enforced if necessary. By the end of 1921, approximately fifty-seven of these committees had been organized. The industrial crisis of 1921–23 however, caused a sharp decline in agricultural wages which offset most of the advantages gained during the prosperous years previous to 1921.

COÖPERATION

Coöperative undertakings have long played an important part in bettering the lot of the agricultural population of a number of Continental countries, but in this respect England has been decidedly backward. In many countries of Europe where landholdings are relatively small, notably in France, in Denmark, in Italy and in certain sections of Germany, this movement has been well organized and has accomplished excellent results. In England and Wales, on the other hand, in spite of the establishing (1901) of an organization for the express purpose of fostering coöperative undertakings in the rural sections, it has been difficult until quite recently to maintain agricultural credit and supply associations. This is all the more astonishing when we consider that coöperation in retailing has been remarkably successful in English urban communities. Despite their early failure, farmers' coöperative associations appreciably increased their membership from the early part of 1919 to January, 1920. That this form of coöperation may ultimately become a factor of importance in the agricultural organization of the country is not unlikely.

OTHER REMEDIES

It has also been suggested that England revert to her former policy of protection in order to combat the serious effects of foreign agricultural competition. That such a proposal

meets with the support of those who represent landlordism is not surprising, for the argument in support of protective tariffs in England is just as alluring as in other countries where the spirit of national self-sufficiency still prevails. As early as 1903, a movement was started throughout Great Britain, under the leadership of Joseph Chamberlain, to reëstablish a general protective tariff, with colonial preference. Supported by the Unionist Party, but bitterly opposed by the Liberals, this program made considerable progress in the years preceding the World War. There was little to be gained by denying the claim of the protectionists that the landlords would profit by an increase in the price of foodstuffs which would follow if duties were imposed upon cereals, flour, and the products of the dairy industry. But whether the English consumer would benefit was another matter. Higher prices would accrue to the advantage of those directly interested in agriculture, but the consumer would pay dearly for the landlords' prosperity, and after all the Government had to take cognizance of the fact that the industrial population far outnumbered the agricultural. A protective tariff, moreover, by raising the cost of living, would ultimately affect wages, and hence the price of industrial products. This would in turn react upon the economic relations with all parts of the Empire, making some sort of preferential treatment for British exports necessary. The repercussions of any English tariff act would be so complicated, and its long-time effects upon traditional policies so revolutionary, that the political parties have generally looked upon it as a dangerous issue.

Finally, among the remedies suggested for the agricultural depression, land nationalization has been put forward as a feasible solution. The nationalization of a country's landed resources is at most a dim and doubtful possibility for the future. In the meantime, practical and effective steps — even if they appear to be merely "temporary palliatives" — must be taken if agriculture is to retain even its present importance in England's national economy. Perhaps the most important of these remedies are those which look toward attaining

better living conditions and a larger measure of economic security for those engaged in agriculture. It appears likely that the right road for the immediate future leads toward permanently securing a minimum wage for agricultural laborers, enacting and enforcing housing laws, and providing credit facilities and liberal opportunities for landholdings. As we have seen, the Government has already taken some important steps along this road.

Proof that opportunities exist for the further expansion of English agriculture, it was thought by some, was given during the war, when the production of wheat alone increased thirty-two per cent (in 1916) over the annual average of the period from 1904 to 1914.[1] The acreage devoted to the cereals (wheat, barley, oats, and rye) in England and Wales increased from an annual average of 5,294,286 in the years 1905 to 1914 to 5,637,190 in 1917. The efforts of the Government in 1917 to increase the food supply through legislation resulted in adding to the total arable lands considerably over one million acres by 1918. But, as in the Napoleonic wars, the stimulus of high prices was the main factor in bringing about an increase in British crops.

In order to guard the interests of the producer, the consumer, and the Government, the Corn Production Act was put into operation in August, 1917. The act provided minimum prices for wheat and oats. If the price dropped below these minima, which were to be changed from time to time, the Government stood ready to pay the difference. But in place of a fixed minimum per bushel, the law provided that the farmer should receive payment or compensation based upon the acreage under cultivation. In describing the operation of the system, Reginald Lennard states: "If the average price of a quarter of wheat or oats for seven months from the

[1] PRODUCTION OF WHEAT

FIVE-YEAR AVERAGE	BUSHELS	FIVE-YEAR AVERAGE	BUSHELS
1885–1889	73,917,068	1905–1909	58,921,686
1890–1894	64,625,811	1910–1914	59,487,582
1895–1899	58,994,748	1915–1919	72,095,346
1900–1904	50,653,367		

beginning of September in any year was less than the guaranteed minimum price for that year, the farmer was entitled to be paid four times the amount of the difference for every acre planted with wheat and five times the difference in the case of oats for every acre planted with that grain. The payments to the farmer might, however, be reduced or withheld altogether if the land had been negligently cultivated." [1]

Owing to the high price of cereals, the regulations of the Government were ineffective, excepting in so far as they encouraged the extension of the cultivated area. The Government in December, 1917, also fixed maximum prices, through provisions contained in the Defence of the Realm Act. From the standpoint of the producer this regulation was disadvantageous, since the maximum prices were actually below the current or market quotations.

The minimum price guaranty for wheat and oats, it should be mentioned, was again provided for in the Agriculture Act which went into effect on January 1, 1921, as was likewise the provision for the minimum wage; but both of these measures were withdrawn through the repeal of the Corn Production Act which became effective on October 1, 1921. Not alone the agricultural laborer, but the farmer as well, has therefore been deprived of the benefit of government protection. The result has been that both classes have suffered financial losses which it will be difficult for them to repair.

Even before the repeal of this legislation, much of the wartime gain in productive area had been lost. By the end of 1922, England found herself with only about 300,000 acres more than at the beginning of the war, a loss of about a million acres, or approximately seven ninths of the increase as it had appeared at the time of the armistice. In brief, the United Kingdom has gone back to something very near the agricultural situation of 1914, producing about two fifths of the food supply at home and tending to keep a high percentage of grass lands relative to those tilled.

No single explanation of the persistence of a system of huge

[1] *Journal of Political Economy*, vol. xxx, p. 609.

holdings, as compared with France and Belgium, can be made. Great Britain's position in world trade and manufacturing evidently has much to do with it, but this item becomes less convincing when we include intensively industrialized Continental countries in the comparison than it would if we chose France alone. That the situation is not at all satisfactory is generally recognized. In spite of all that has been done to encourage small holdings and allotments, it cannot be said that any promising cure is in sight. The development of educational facilities for technical training is sorely needed, and a good deal could be done to foster rural credit institutions. As German writers often insisted before the war, it is possible that Great Britain's relatively swift rise to her dominant position in world trade, industry, and finance has been due in part to fortunate combinations of circumstances. Whatever the reasons, agriculture has paid a certain price for it. It would be rash to predict what kind of economic readjustment may take place with the growth of industry and commerce elsewhere, but if Great Britain's relative predominance should be affected, she might very well have to grow a larger percentage of her food supply instead of trading for it abroad. Wise measures could accomplish something in the meantime, but in the absence of any great economic pressure or any assured economic advantage, the results of attempts to force people onto the soil have not been particularly encouraging.

SUGGESTIONS FOR FURTHER READING

Agricultural Tribunal: *Report.* (Parliamentary Paper, Cmd. 2145, 1924.)

*Agricultural Wages Board (Great Britain): Committee on Occupation of Agricultural Land and Cost of Living of Rural Workers. (1919.)

Ashby, A. W.: *The Rural Problem.*

Board of Agriculture and Fisheries (Great Britain): *Agricultural Research and the Farmer.* (1922.)

Cadbury, G., Jr.: *The Land and the Landless.*

Caird, J.: *The Landed Interest and the Supply of Food.*

*Clapham, J. H.: *An Economic History of English Agriculture,* chaps. IV, XI.

Collings, J.: *Land Reform: Occupying Ownership, Peasant Proprietary, and Rural Education.*

*Curtler, W. H. R.: *A Short History of English Agriculture*, chaps. XVII–XXI.
——— *The Enclosure and Redistribution of our Land.*
Dunlop, O. J.: *The Farm Labourer.*
Fordham, M.: *A Short History of English Rural Life from the Anglo-Saxon invasion to the present time.*
Galpin, W. F.: *The Grain Supply of England during the Napoleonic Period.*
*Green, F. E.: *A History of the English Agricultural Labourer, 1870–1920.*
Haggard, H. R.: *Rural England* (2 vols.)
*Hall, A. D.: *Agriculture after the War.*
Hall, Sir Daniel: *A Pilgrimage of British Farming.*
Hasbach, W.: *A History of the English Agricultural Labourer*, chaps. III–VII.
*Hibbard, B. H.: *Effects of the Great War upon Agriculture in the United States and Great Britain.*
*Johnson, A. H.: *The Disappearance of the Small Landowner*, chaps. IV–VI.
*Levy, H.: *Large and Small Holdings*, chaps. I–VIII.
*Mathews, A. H.: *Fifty Years of Agricultural Politics, being the History of the Central Chamber of Agriculture* (1865–1915).
Meredith, H. O.: *Outlines of the Economic History of England*, chap. VIII.
*Orr, J.: *A Short History of British Agriculture.*
*Porter, G. R.: *The Progress of the Nation* (new edition, revised by F. W. Hirst), chaps. X, XI.
*Prothero, R. E. (Lord Ernle): *English Farming, Past and Present*, chaps. XVII–XIX.
*Rew, R. H.: *An Agricultural Faggot*, chap. II.
Royal Commissions on Agriculture: *Reports* of 1880–1882, 1894, 1919.
Royal Commission on Labour: *The Agricultural Labourer* (1893–94).
Turnor, C. H.: *The Land and Its Problems.*
*Venn, J. A.: *Foundations of Agricultural Economics.* (Consult table of contents.)
Wolff, H. W.: *Coöperation in Agriculture.*

CHAPTER VI

AGRICULTURAL DEVELOPMENT OF GERMANY SINCE 1800

ABOLITION OF SERFDOM

Diversity of climate, differences in the fertility of the soil, and racial and political conflict have played an important part in the development of agriculture in Germany. The struggle from serfdom to freedom was successful only after centuries of conflict. In England the disappearance of the manorial system was gradual, but certain and continuous. Not so in Germany, for in some parts of her territory serfdom disappeared early, while, at the same time, a highly developed manorial system continued intact elsewhere. The reasons for this situation are to be found in the conditions under which the manorial system flourished and decayed throughout German lands — conditions which were largely controlled by the geographical regions in which, respectively, they developed.

In the southwest, the manorial system early showed signs of decay. Commutation of services, notably during the fifteenth and sixteenth centuries, gradually led to a decline in serfdom, until, by the middle of the seventeenth century, it had largely disappeared as a factor in the economic life of the people, even though, legally, serfdom was not abolished until much later and unimportant remnants of manorial organization continued into the twentieth century. The scattered manorial possessions in many parts of the southwest gave little opportunity for the development of landlordism. This lack of territorial continuity frequently enabled the serf to secure his freedom through commutation of manorial obligations, and possibly to gain possession of one of the numerous scraps of land which constituted part of the holdings of his lord. Thus, in time, the relatively independent peasant became a dominant figure in the rural organization of this territory.

In the northwest, landholdings had been more extensive than in the south since the early Middle Ages. They were never minutely subdivided, the real manorial order did not take hold, and serfdom was abandoned as unprofitable before modern times. Fairly large tracts were leased to farmers, and the peasants were chiefly agricultural laborers. This region was near Holland and the Hanseatic towns, and much of it was in the path of Dutch colonization eastward, as a multitude of family names still shows. In comparison with eastern Germany, however, individual holdings were relatively small.[1]

Pressure of foreign influences and severity of climate largely determined the history of the territory which lies east of the Elbe. The enervating influence of serfdom and its numerous appendages had practically vanished from the greater part of Germany by the time that, with retarded vigor, serfdom was universally established in the east. For this confused state of affairs, Slavic invasions were partly responsible. The recolonization of this territory by Germans, Dutchmen, and others in the ninth and tenth centuries had been supported by concessions of land and also of freedom from the prevailing system of personal obligations. Opportunities of exploitation under a manorial system were, however, too great to allow a free and unhindered development of this territory. By the seventeenth century, serfdom had become well established, its conditions often extremely severe, bordering, in some cases, on abject slavery. This situation prevailed until the early part of the nineteenth century and can be accounted for by the desire of the landlords to increase their power through dispossession of the small landowner, a policy which was ruthlessly carried out until the greater part of the land in the northeast was brought under their immediate control. It was not a difficult step to bind the population to the soil and to establish serfdom once the free peasant had been torn from what he thought to be his rightful possession. Many accentuating forces entered into this struggle. The Thirty

[1] Sartorius von Waltershausen, A.: *Deutsche Wirtschaftsgeschichte*, p. 13.

Years' War (1618–48), with its attendant confusion, gave the large landed proprietor an opportunity of imposing still severer terms on his helpless subjects, until finally the "rule of custom," which had previously regulated the services demanded of the serf, disappeared, and the lord was able to impose his own terms.

At the opening of the nineteenth century the need for legal emancipation was particularly pressing in eastern Prussia, where economic and political forces which had led to the dissolution of feudal institutions elsewhere were as yet not in evidence. A national calamity of the most disastrous nature was required to destroy the legal foundation of serfdom in Prussia. The victories of Napoleon in 1806 marked the beginning of great reforms. A defeated Prussia conceived a program of reorganization in which the abolition of serfdom was but a part. Shortly after the far-sighted administrator, Stein, had taken office, the Emancipation Edict of 1807 was issued. This edict provided for a complete emancipation of the serf by 1810. At the same time the caste system, which had prevailed for so long and which had worked such endless hardships, was abolished. Laws which had closely regulated the economic activity of the various classes were withdrawn, thus allowing the nobility to engage in activities which were formerly permitted only to a citizen, and allowing citizens, in their turn, to engage in the pursuits of the peasant. Furthermore, the restrictions placed in the way of landholding were withdrawn.

Had the emancipation proclamation been carried out as originally intended, one of the greatest obstacles to the agricultural development of Germany would have disappeared at one stroke. Legally the serf had been freed, although he was still kept in a condition of semi-serfdom. Three forces contributed to destroy the full effect of the Edict of 1807: the general backwardness of the peasant population, the attitude of the Government, and the opposition of the lords. The manorial system had not as yet been displaced by a new and more vigorous organization. In

England, manorialism had disappeared gradually, making room for a new form of economic activity, which proved to be extremely profitable; namely, sheep-raising. The severance of the bonds of serfdom was carried out in later days, not always without protest, but at least more willingly than in Prussia. Emancipation came in Prussia at a time when the manorial organization was still firmly established and still profitable to those who were fortunate enough to reap its benefits. The struggle to overthrow manorialism showed the inherent strength that rested in the landlords. Their influence was responsible for the inclusion of agricultural laborers in the *Gesindeordnung* (Servants' Ordinance) of 1810. This ordinance circumscribed the freedom of a large number of peasants who were supposed to be domiciled with the landlord, by restricting their right in the matter of contractual relations with the lord. Thus a separate code was set up for the express purpose of allowing a continuation of many of the manorial customs which the Emancipation Edict had intended to abolish. It is a significant fact that this ordinance was enacted only shortly after the Edict of 1807 had become fully operative. The history of the peasant and the agricultural laborer in Prussia in later years is closely related to that of the Servants' Ordinance of 1810. While the industrial laborer gained his economic and political freedom, the agricultural laborer was held in virtual bondage through the strict interpretation of the ordinance. Similar laws were put into effect in other German States, although from time to time their severity was mitigated by amendments to the original acts.

But in Prussia legislation affecting the condition of the newly created peasant had only begun. The manorial lords in many instances stubbornly refused to acknowledge that serfdom had come to an end, and exerted their influence with the Government to introduce legislation which would ward off, to some extent at least, the possible future dangers to their interests which emancipation threatened to produce. In the years immediately following the Edict of 1807, laws

were passed which in some respects weakened, and in others strengthened, the position of the peasant. During the Hardenberg Ministry a law was enacted (1811) which allowed the peasant to own the lands which he held, but provided for an adjustment between the landlord and the peasant whereby the latter was to cede a certain portion of his holdings to the lord in compensation for the losses which the lord sustained by relinquishing many of the feudal rights that he had exercised in days gone by. The law of 1811 grouped the peasants into two classes: those who held their lands by heritable rights, and those who did not possess such rights. It provided that the former should cede one third of their holdings to the lord, and that the others should cede one half, the remainder to become the property of the peasant. However, "a royal declaration of 1816 limited the application of the principle to men who did *Spanndienste*, the full peasants who had plough oxen and a share in the regular village fields. All below them were excluded, left to the old law, liable to be called upon for services. Now the declaration of 1816 remained in force till 1850, and most of the work of rearrangement was done under it for those peasants whose land was not heritable. The higher grades were more fortunate. They bought off their old obligations by a sacrifice of land, or by an agreement to pay a rent without sacrificing land; and there were no great delays in concluding the transaction."

"But the 'regulated' peasants, as the tenants of non-heritable holdings came to be called, fared badly in the long run. Their lord could make any arrangement he liked with them before 'regulation' began. As it did not begin until they asked for it, he could buy out their interest in the land under the free trade legislation of 1808."[1]

The Act of 1811 also provided that those who held extremely small plots of land, where subdivision would have resulted in the creation of holdings insufficient for a liveli-

[1] Clapham, J. H.: *The Economic Development of France and Germany, 1815–1914*, pp. 44–45.

hood, should be given the opportunity of paying rent to the landlord. A further difficulty encountered by the small peasant resulted from the fact that the law did not provide for automatic separation of his holdings. In every case it was necessary for the peasant to request that such division be carried out, which obviously was a slow process.

As a result of this legislation, new lines of cleavage developed within the rural population. For those who did not possess heritable rights, the servile relationship existing between lord and serf often continued as before emancipation. Even the modifying influence of legal freedom, which carried with it a circumscribed right of migration (a privilege which was of doubtful advantage owing to the political and economic confusion which existed throughout a large part of the German lands in the early nineteenth century), did but little to change the position of a considerable number of the rural population until 1850.

In the same year (1811) the regulatory features of early enactments were extended to include certain elements of the rural population which formerly had been neglected. Even so the lowest class in the rural population remained at the mercy of the landlord. This class (laborers and tenants-at-will) was still in a semi-servile state, rendering services as of old when called upon to do so. With a communal council interested and willing to defend the claims of the landed proprietors, who still resembled the manorial lords of earlier days, little mercy was shown in demanding such services.

An inevitable result of the emancipation of the serf in eastern Germany was the further concentration of landholdings, which was made possible through the separation of peasant and manorial lands and through additions to the landed estates of areas bought from the smaller peasants. After emancipation, these possessed the right of disposing of their property at will and often did so, owing to their inability or unwillingness to carry on agriculture independently.

That the peasant, even after he had gained complete possession of his land, would continue to cultivate his fields as he did before emancipation was to be expected, for common rights among the peasantry were maintained. This condition was greatly deplored by contemporary writers, who saw in the perpetuation of these rights a serious handicap to the newly created peasantry. The history of agriculture in Germany showed that their fears were not mere illusions. Progress in the consolidation of peasant holdings was extremely slow. The Prussian law of 1821, however, gave it an impetus and other German States passed legislation with the same end in view. Gradually the retarding influence of ancient methods of agriculture was overcome, sometimes by the efforts of the peasants themselves, but more frequently through legislative enactment.

The early disappearance of serfdom as a vital factor in agricultural development in the southwest and in the northwest has been referred to elsewhere. Remnants of serfdom still existed in these districts long after serfdom had been legally abolished. However, the system of landholding which prevailed in the southwest made impossible a settlement between the lord and the peasant on the principle adopted in Prussia, namely, that of ceding to the lord part of the peasant holdings. Instead, the peasant was required to make payment over a term of years, gaining unrestricted freedom and possession of his property only after the terms of the financial settlement had been fulfilled. Some States made more rapid progress than others in eliminating the servile dues which had been inherited from the past. In the great majority of cases, this matter had been definitely disposed of by the end of the nineteenth century, only a few remnants of such dues still lingering on into the second decade of the present century.

PROGRESS OF AGRICULTURE TO 1875

German economic life during the eighteenth century centered chiefly around agriculture. Only here and there

were industry and trade followed as exclusive or independent activities. The great commercial centers, which in centuries past had furnished outstanding examples of efficient organization had completely disappeared; all that remained was a disorganized Germany, broken into many States, each struggling for economic independence. The Industrial Revolution, which had already deeply affected the economic life of England, had not as yet greatly influenced Germany. As late as 1816 a large majority of the people, approximately three fourths, was distinctly rural in character.[1]

During the Napoleonic wars agricultural production had been seriously hampered. An unduly large output followed the conclusion of hostilities. By the twenties production had become excessive, culminating in a serious crisis. The growth of industrial activities, beginning in the thirties, resulted in an increased demand for agricultural products; prices rose and the position of the agricultural population was greatly strengthened. Crop rotation was extensively applied, improved agricultural implements were introduced, and the application of chemistry to agriculture received the careful attention of German scientists.

Education, which had become increasingly important as scientific knowledge was brought to bear upon the solution of agricultural problems, was encouraged by the establishment in Prussia of a number of agricultural colleges, beginning in the thirties, and by the inclusion in university curricula of scientific courses in agriculture. Agricultural production now demanded a technical knowledge which had been unnecessary as long as strip cultivation prevailed, with its fixed and limited rotation of crops. The production of beet sugar alone, which had become an important industry by the middle of the century, required considerable skill. In order properly to develop this industry and others that depended for success upon application of scientific knowledge, it was necessary to provide technical training and suitable machinery. These new demands of the agriculturist were

[1] Sartorius von Waltershausen, *op. cit.*, p. 6.

met with an initiative which was all the more remarkable when the general backwardness of agriculture throughout Germany is taken into account. Interest in agrarian progress is also shown by the number of exhibitions of cattle and of machinery which were held quite regularly after 1835. The importance of improved methods of bookkeeping, introduced by the large landholders, likewise should not be overlooked, for success in agriculture as in any other economic activity depends in part upon an accurate system of accounting. The benefits of scientific knowledge accrued at first only to the proprietors of large holdings, who alone had the necessary capital which expensive equipment called for and the concentrated holdings which were needed for experimentation. For this reason eastern Prussia, where landlordism predominated, became the center of agricultural progress during the nineteenth century.

Encouragement to the small peasant came at first not so much from the application of newer and better methods of agriculture as from improvements in the means of communication. After the fifties the railways spread a network of rapid and cheap transportation in all directions, thus rousing the small peasant from his lethargic state. New fields of endeavor were opened to him, and his economic dependency upon the landlord was diminished.

German agriculture continued to show signs of fairly continuous progress until the last quarter of the nineteenth century. The area under cultivation grew steadily, surplus commodities were accumulated, and the export of agricultural products became an increasingly important factor in economic life.

AGRICULTURAL DEVELOPMENT SINCE 1875

Among the many economic problems which Germany encountered following the Franco-Prussian War was a serious agricultural depression. A victorious Germany, politically and economically strengthened, emerged from this conflict, ready to undertake industrial reorganization

on a scale never before dreamed of. Such a transformation could not be accomplished without a far-reaching readjustment in the economic organization of the country. The period following the Franco-Prussian War was characterized by a feverish effort to achieve national greatness through a policy of economic self-sufficiency. Previous to 1870 German agriculture had been able to maintain itself in a fairly flourishing condition without government assistance. The great wave of inflation which swept over the country following the culmination of the war with France, and the heavy indebtedness of the landholding class, which was particularly pronounced in the eighties and the early nineties, were in large measure responsible for the difficulties now encountered. Added to these problems was the sudden phenomenal growth in industrial activity, which drained the rural districts of many laborers to meet the unprecedented demand of the great industrial plants for labor. This increased demand meant a rise in wages, which the landowner, in turn, had to meet, even in the face of the falling prices which followed after inflation had run its course and deflation had set in. Foreign competition, moreover, affected the German landlord to an alarming extent. The wheat fields even of distant continents were brought into close competition with those of western Europe, and thus a new source of danger arose.

AGRICULTURE AND THE TARIFF

The expanding industries of a newly born Germany almost immediately demanded protection. Competition with the firmly established and well-organized industries of other nations, it was claimed, would not allow an unhindered development unless some security were provided. Protection against the importation of foreign manufactures could not be undertaken under conditions then prevailing in Germany without granting similar concessions to the agrarian interests, which, rightly or wrongly, maintained that their welfare also depended upon a protective tariff. In previous

years the export of wheat and rye had been fairly regular, while the domestic market had been well supplied with home-grown products. Why, therefore, should protection be extended to the landlord? Without doubt, the agricultural depression of the seventies had changed conditions appreciably. The growth in the industrial population after 1875 had resulted in an increased demand for cereals which the home producer was unable to provide. With the large cultivators clamoring for assistance the Government soon found itself helpless and allowed fairly substantial duties on agricultural products in the tariff of 1879. However great the dangers may have loomed in the minds of those who promulgated this tariff, it must be remembered that, so far, German agriculture was not in a precarious condition, even though imports of foreign cereals had already begun, notably from Russia. While the cultivated area and the total production slowly but steadily increased, the demand for foodstuffs rose still more rapidly. Hence, even though prices did not immediately react to the stimulus of the tariff, ultimately there was bound to be a rise, to the detriment of the consumer.

The large, not the small, producer benefited from this protective legislation. But even with the former, the situation was not altogether satisfactory. The heavy demand of the industrial plants for labor, as already noted, had brought about a rise in the general level of wages. Furthermore, despite the increased demand for agricultural products, world prices persisted in their downward trend. For years the pressure of falling prices, brought on by an ever-increasing production abroad, was the weapon used by the landlord to force the Government to continue and to strengthen legislative measures on his behalf. Once Bismarck had been won over to the theory of an *Agrarstaat*, he became the political spokesman of the great landlord class or country gentlemen, the *Junkers*. So the policy of protection was continued, not always with the same enthusiasm, but with sufficient force to strengthen materially the position of the

large proprietor. If the influence of this class had not been so powerful in the councils of state, the history of agrarian Germany would have taken a very different course.

Increase in the duties on agricultural products continued until the early nineties. Reductions were then introduced, which, however, did not materially change the general policy inaugurated by Bismarck. High protection on agricultural products was again provided in the Act of 1902 (effective in 1906), when the tariff underwent a complete revision. In addition to the duties imposed, various obstacles were now placed in the way of the importation of a large number of agricultural products. The landed proprietor thus gained possession of a powerful weapon in his struggle against foreign competitors.

In the years following 1906, the increase in the price of cereals brought about a significant change in the importance of agriculture. Coupled with rising prices, there was a steadily increasing demand for land, which greatly advanced its market value. In spite of the still heavy indebtedness of the landholding class, which resulted in part from the price inflation of the period following the War of 1870, the condition of the landlord was now much less precarious than during the latter part of the nineteenth century. He had given considerable attention to the production of rye and wheat and his output had increased,[1] yet he was by no means able to meet the demand of the domestic market. Although in the years just preceding the World War, the dependency of the German consumer upon other nations had become slightly less, the Government nevertheless estimated that in 1914 between one sixth and one fifth of the population was obtaining its sustenance from abroad.

[1] Production of Rye and Wheat in Germany, 1880–1919

Ten-Year Average	Metric Tons * Rye	Metric Tons * Wheat
1880–1889	5,701,724	2,478,738
1890–1899	7,172,055	3,086,889
1900–1909	9,724,844	3,624,259
1910–1919	9,274,864	3,295,782

* A metric ton is 2204.6 pounds.

RURAL DEPOPULATION

The danger of foreign competition was by no means the only problem which faced the landlord and demanded the attention of the Government. The tendency of the population to concentrate in industrial centers became a serious problem in Germany, particularly in the east. The agricultural laborer was no longer closely bound to the soil, although devious schemes, some of which became law, were used to bind him more closely to the landlord. Rapid increase in urban population began in the third quarter of the century, but even as late as the decade following the Franco-Prussian War little change occurred in the numerical importance of the rural population. In the nineties, however, a decided decrease can be observed. From 19,225,455 in 1882, the rural population, including those engaged in forestry and the fisheries, dropped to 18,501,307 in 1895. By 1907 it had declined to 17,681,176 or 28.6 per cent. of the total, as against 42.5 in 1882. Relatively and absolutely, the population of rural Germany had declined. The influence of the introduction of farm machinery; the spirit of independence engendered by the revolutionary movements of 1848, and later the greater security and opportunity of self-development resulting from the establishment of national unity; the increased mobility of labor following the introduction of the railway and other means of rapid intercommunication; greater opportunities for a more varied and regular employment; better living conditions in the cities, due to the strict enforcement of social legislation — these have been the main reasons for the decline of the rural population.

Moreover, wages were lower in the rural districts, often considerably below those paid to the industrial worker. The standard of living of the rural laborer was therefore correspondingly lower. There existed, furthermore, a deplorable lack of recognition of the civil rights of the agricultural population. The relationship between the tenants-at-will and the agricultural laborers and their employers was still

tinged with the spirit of the manorial régime. Even the amended Labor Code in Prussia (1869), the Imperial Civil Code, and other liberal enactments of recent years which benefited the industrial class, cautiously omitted the agricultural laborer from their provisions. The rural exodus was likewise encouraged by active propaganda on the part of agents, who made every effort to cause an influx to the industrial centers.

To take advantage of the greater opportunities in the industrial sections of the home country was not the only alternative left to the dissatisfied agricultural population. The possibility, indeed probability, of economic success in foreign lands was not to be overlooked, and at various times the agricultural districts of Germany considerably swelled the tide of emigration. It is well known that the revolutionary upheavals in the forties had much to do with encouraging emigration in the two decades following; but the economic motive also was beginning to play an increasingly larger part. Later, conditions in the United States during and immediately following the Civil War, and the industrialization of Germany contributed to decrease the number of those leaving for foreign lands. In the eighties, however, temporary economic disturbances gave renewed impulse to the wave of emigration. Only 35,888 left Germany in 1880; in 1881 the figure rose to 220,902. Increased industrial activity after 1895 again caused a remarkable decrease in the number of emigrants, a condition which prevailed until the outbreak of the World War. Following the war, due to restrictions imposed either by the home Government or by foreign countries, emigration has been reduced to an extremely small figure.

Since the increase in the population did not affect the number of available agricultural laborers, the dependence of the landlord on foreign labor became more pronounced, until in recent years the German rural population, particularly in the east, has been heavily supplemented by the foreigner, coming, under close governmental supervision, from the

countries bordering on the German frontier. Owing perhaps to the competition of this foreign element in the labor supply, accustomed to a lower standard of living than that maintained by the German laborer, agricultural wages did not rise so rapidly as in the industrial centers, where this competition was not present. In 1907 the total number of migratory laborers, largely Russians, Poles, and Austrians, reached a total of 257,329; by 1912–13 it amounted to nearly 500,000.

Rural depopulation was also partly due to the seasonal demand for labor and to the introduction of farm machinery which displaced a fairly large number of agricultural laborers. Foreign migratory laborers therefore filled a distinct need, but still were not numerous enough to satisfy the demand of the landlords. So at times recourse was had to the utilization of soldiers in the harvesting of crops. Following the example of the United States, proposals were even made to introduce Chinese coolie labor. But this plan came to naught. Introduction of migratory laborers into the native labor supply should at best be regarded as a temporary measure; certainly not as a desirable solution of the problem of labor shortage. Outside of eastern Prussia the migratory laborer was of relatively little importance, since elsewhere the local labor supply, supplemented to a small extent by foreigners, proved sufficient to cultivate the fields and harvest the crops.

Improvement in the general condition of the agricultural population was distinctly retarded through the efforts of the "Agrarian League," which successfully exerted its influence upon the Government to prevent the passage of legislation which would be detrimental to the financial interests of its members and urged the enactment of laws which would perpetuate the privileges which they already possessed. Compared with the eastern provinces of Prussia, the lot of the rural population was much better in those sections of the country where the small peasant ruled and where the agricultural population was permitted to combine for mutual betterment, as in Bavaria. The stubborn resistance of the

large landed proprietors to any serious attempt at reform was directly responsible for the perpetuation of a system which in many respects had become intolerable. The landlords even went so far as to destroy some of the customs which previously had mitigated the unsatisfactory condition of the rural laborer. Thus the partial abolition of the method of wage payment, whereby both a money compensation and a payment in kind were made, severed a tie which had reacted favorably upon the personal relationship of the landlord to his laborers.

EXTENT OF LANDHOLDINGS

One of the interesting facts in connection with the agrarian problem of modern Germany has been the steady increase which has taken place in the number of relatively small holdings. The southwest, as we have seen, was never troubled to any large extent with concentrated landholdings. Even during the late manorial period, the lords' possessions were well scattered, so that, once the bonds of serfdom were severed, many peasants found an easy access to the land. Nor did this problem arise in the northwest, where individual peasant holdings were larger than in the southwest, yet still relatively small. The problem of large landholdings, as pointed out elsewhere, was restricted almost entirely to the northeast. For reasons which are not difficult to understand, the small peasant paid little attention to the activities of the landlords or *Junkers*. Fluctuations in the price of the basic agricultural products had less significance for him since his interests were less specialized than those of the landed proprietor. The labor problem which gave the large landowner such grave concern was practically unknown to the peasant, whose personal efforts, combined with the efforts of members of his household usually sufficed to obtain the maximum results from the lands which he cultivated.

Since 1882 there has been a tendency for large landholdings to decrease, relative to the total agricultural area of

the country, a tendency also noticeable in the case of extremely small holdings. Thus, in 1907, in Würtemberg and Bavaria only two per cent of the total agricultural area was occupied by holdings in excess of 250 acres. In the Mecklenburgs, conditions were vastly different, about sixty per cent of the total agricultural area being occupied by estates in excess of 250 acres.[1] Of the total agricultural lands of the country, previous to the war, holdings from $12\frac{1}{2}$ acres to 50 acres covered about one third of the total area, those less than $12\frac{1}{2}$ acres only slightly in excess of ten per cent.

In 1890 and 1891, in the eastern provinces, the Prussian Government attempted to improve the agricultural situation by introducing the necessary legislation for the establishment of small holdings. Both acts provided for the purchase by the Government of lands to be sold to permanent settlers. To safeguard the principles upon which this colonizing scheme rested, the Government retained for itself a certain degree of control over such lands by establishing a permanent rent charge. This plan proved fairly successful, and was later approved even by many of the conservative *Junkers*, who saw in its execution both an opportunity of selling to the Government lands which they no longer wished to cultivate and a new source of labor supply, which they sorely needed. By 1905 the Government had purchased approximately 600,000 acres of land and had placed settlers on about 300,000 acres. Since a considerable portion of the lands in which the vast estates of the large proprietors were located was still governed by the laws of entail, which applied to arable as well as to forest lands, there was little likelihood of a weakening in the position of the *Junker*.

Laborers' holdings similar in some respects to the English allotments were provided for in subsequent legislation. Other German States, including Bavaria and Mecklenburg-Schwerin, introduced legislation with the same object in view. In those regions which were predominantly Polish in character, the establishment of small holdings was under-

[1] Clapham, *op. cit.*, p. 200.

taken with an entirely different purpose in mind, namely, the replacement of Polish peasants by German settlers, a policy which at times was ruthlessly carried out, but in the end failed of its purpose. This experiment must not be confused with the small holdings movement, since political rather than economic considerations were responsible for it.

AGRICULTURAL COÖPERATION

The coöperative principle has been applied in Germany to many phases of agricultural activity. Of the various organizations which have adopted it, the Raiffeisen banks have undoubtedly been the most powerful. These banks bear the name of their founder, Friedrich Raiffeisen, whose efforts were responsible for the establishment of what became, in time, the strongest group of agricultural credit associations in Germany. Beginning in 1847 with the organization of local consumers' leagues, Raiffeisen extended the coöperative principle to rural credit in 1864, through the organization of local credit banks. To render financial assistance to these institutions, a central bank was established in 1876. With the extension of the activities of the Raiffeisen associations into fields other than that of agricultural credit, it became necessary to combine these various activities into separate central associations of which a large number were established. Moreover, general associations of local coöperative societies were organized, those at Neuwied and Offenbach being the two most important. These two associations later (1905) combined and formed a national association.

One of the outstanding characteristics of the Raiffeisen banks is the provision for unlimited liability of its members. Originally the issuance of shares of stock was not provided for. This policy was eventually modified to meet legal requirements, and nominal shares of stock were issued. Essentially the Raiffeisen banks are engaged in providing agricultural credit; but the coöperative principle has been extended so as to furnish to members many advantages possessed by the larger cultivators individually. Thus, co-

operative supply associations, wholesale warehouses, and local retail stores have come within the scope of their activity. The membership in these associations has been estimated to be in the neighborhood of 2,500,000.

Other coöperative institutions have also been developed with astonishing success. The Schulze-Delitzsch associations, although at first concerned primarily with the development of the coöperative principle in the towns, have in recent years extended their activities to the field of agricultural credit. Also, coöperative societies whose function it is to furnish the small landholder with some of the economies of wholesale buying, have rapidly increased their membership.[1]

It is surprising that, in a country which has such a well-developed system of coöperative rural credit, the retail coöperative store has made but slight progress. In the field of production, a few coöperative dairies have met with some success, particularly in Prussia, in Holstein, in Mecklenburg, and in one or two other States. Throughout the country as a whole, however, this form of coöperation is relatively unimportant.

Following the leadership of Prussia, a number of successful State Central Coöperative Banks have been established, whose function it is to extend credit to societies whose membership consists of local coöperative credit associations. The success of the coöperative principle in the rural districts of Germany offset in part the lack of civil liberty which prevailed previous to the war, and its beneficial influence in modifying the condition of the rural districts can hardly be overestimated.

THE FUTURE OF GERMAN AGRICULTURE

We have already spoken of the trying experiences of the German cultivator after 1875. The danger of overemphasizing the precariousness of his condition has sometimes been overlooked by those who have steadfastly maintained that

[1] Sartorius von Waltershausen, *op. cit.*, pp. 433–35.

only through favorable legislation could his lot be changed. That industrialization would be followed by a greater dependence upon foreign sources of food supply was to be expected. It is therefore all the more remarkable that Germany was able to produce so large a percentage of the total supply of foodstuffs which her population demanded. The fact that the amount of capital invested in agricultural activities steadily increased in the quarter century preceding the war and the preponderance of landowning cultivators as compared with tenants were both indicative of the healthy state of German agriculture.

In England industrial and commercial pursuits have become the focusing point around which all other economic activities center. This is the logical outcome of a geographical division of labor, which, in the course of time, has perforce become international rather than purely national in scope. Moreover, it is one which we should not be unwilling to accept.

A territorially restricted country, if it wishes to attain supremacy in the industrial field, usually cannot retain an equal measure of supremacy in agriculture. While the output of the basic agricultural products may increase through more intensive and scientific methods of cultivation or possibly through bringing under cultivation poorer grades of land as in Germany, during the war, the time must come when irresistibly the law of diminishing returns will call a halt to further remunerative increase in the product, no matter how great the pressure of the population upon the food supply. From a study of agricultural conditions in Germany we must conclude that there are opportunities in some sections of the country to advance the point of profitable endeavor still further through more intensive cultivation and bringing new lands under the plow. Agricultural production in Germany previous to the war showed consistent signs of slow but continuous progress accompanied by a fairly steady increase in the total area under cultivation.

The readjustment of the boundaries of Germany, as provided for in the Treaty of Versailles, has in many ways disturbed the agricultural organization of the entire country. The effects of territorial losses were felt particularly in the production of rye, where the loss amounted to over 1,133,000 hectares, or 17.7 per cent of the rye lands previously under cultivation. The cession of lands formerly devoted to the cultivation of wheat and spring barley, while not nearly so large in area, amounting to 292,458 and 270,829 hectares respectively, represented 14.8 and 16.4 per cent of the pre-war areas under cultivation. The decline in the production of wheat was serious, dropping from 4,656,000 metric tons in 1913 to slightly less than 3,000,000 metric tons in 1921. Besides, Germany lost more than 11 per cent of the lands previously devoted to the cultivation of oats. This loss was particularly serious, since most of these lands produced foodstuffs considerably in excess of local consumption. Germany's dependence upon foreign cereals has therefore been greatly increased since the war. The problem of provisioning the nation has been further intensified by loss of lands devoted to the raising of beef and other meats. To obtain an adequate supply of fertilizers was another grave problem which confronted the agriculturist. "Soil mining" was quite prevalent during the period of the war. The natural result was a fairly rapid decline in productivity. Although statistics show that greater amounts of potash and nitrogen were consumed in 1919–20 than in the years just preceding the war, there has been a sudden and appreciable decline in the amount of phosphates used. This decrease is in part to be accounted for by the unfavorable rate of exchange, the decrease in the purchasing power of the nation, and of course by the blockade during the war period. The position of the German agriculturist was particularly depressing after currency inflation assumed such ridiculous proportions as in 1923. Not willing to exchange his produce for a steadily depreciating currency, the landlord and the peasant preferred to withhold their crops from the

markets in the towns, which greatly aggravated the food situation in the populous centers. On the whole, although German agriculture has shown signs of remarkable strength and recuperative power since the war, the total production of agricultural crops to 1923 remained below that of pre-war years.

SUGGESTIONS FOR FURTHER READING

*Ashley, Percy: *Modern Tariff History*, part I.

Blondel, G.: *Études sur les populations rurales de l'Allemagne et la crise agraire.*

Buchenberger, A.: *Agrarwesen und Agrarpolitik*, vol. I, 2d ed.

*Clapham, J. H.: *The Economic Development of France and Germany, 1815–1914*, chaps. II, IX.

Cobden Club: *The Influence of Protection on Agriculture in Germany.*

Croner, J.: *Die Geschichte der agrarischen Bewegung in Deutschland.*

*Dawson, W. H.: *The Evolution of Modern Germany*, chaps. XII–XV.

——— *Protection in Germany.*

Deutsche Landwirtschafts-gesellschaft: *Jahrbuch.*

Knapp, G.: *Die Bauern-Befreiung und der Ursprung der Landarbeiter in den älteren Theilen Preussens.*

——— *Die Landarbeiter in Knechtschaft und Freiheit.*

Leipzig, Universität: *Landwirtschaftliches Institut. Mitteilungen des Landwirtschaftlichen Instituts der Universität Leipzig.*

Michelsen, E.: *Geschichte der deutschen Landwirtschaft.*

Ogg, F. A.: *Economic Development of Modern Europe*, pp. 102–13; 200–09.

Roncador, B. H.: *Wesen und Wirkung der Agrarzölle.*

*Sartorius von Waltershausen, A.: *Deutsche Wirtschaftsgeschichte* (1815–1914).

Schevill, F.: *The Making of Modern Germany*, chap. III.

Sombart, Werner: *Die deutsche Volkswirtschaft im neunzehnten Jahrhundert.*

Von der Goltz, T.: *Geschichte der deutschen Landwirtschaft*, vol. II.

Wagner, A.: *Agrar-und Industriestaat. . .*

*Wygodzinski, W.: *Wandlungen der deutschen Volkswirtschaft im neunzehnten Jahrhundert.*

CHAPTER VII

AGRICULTURAL DEVELOPMENT OF FRANCE SINCE 1789

As late as 1789 the serf still constituted a fairly important element in the rural population of France, especially of the northeast. Of greater importance were the *censiers,* "who held land by an ancient fixed quit-rent or *cens.* The most favoured among them might owe *cens* and nothing else but a fixed payment, akin to the fine in English copyhold tenure, made when land subject to *cens* changed hands at death. As *cens* and fine had usually been fixed generations or even centuries back, and as the purchasing power of money had steadily fallen, the burden was singularly tolerable."[1] In addition to the *censiers* and free peasant proprietors, a land tenure known as *métayage* was common in pre-revolutionary France. Under this system a division of the crop between the cultivator (*métayer*) and the landlord occurred, and in many cases, under the guise of such tenure, ancient feudal obligations of a most oppressive nature were exacted. Tenant farming, unrelated to the restricted tenures of the *censiers* and the *métayers,* had likewise gained a foothold; but large estates were relatively unimportant as compared with England. The decay of serfdom in France, it should be remembered, was not followed by a general concentration of landholdings; therefore the small peasant proprietor could flourish.

The structure of French agriculture was only slightly influenced by the Revolution. The rough edges were smoothed down; inconsistencies in land tenure were removed; but agricultural technique was little changed. The abolition of serfdom was accomplished by the Revolutionary Government without much difficulty. The *censiers,* who had occupied such a unique position in the agricultural history of

[1] Clapham, *op. cit.,* pp. 13–14.

France, were freed from the payment of quitrents, and gained unrestricted possession of their lands. The remnants of feudal obligations which surrounded the *métayers* were abolished, although otherwise *métayage* was not interfered with.

The Revolutionary Government also gave consideration to the traditions connected with the use of the commons. Thus, in 1792 a law was passed which required that most of the commons were to be divided among those who held common rights, but this measure was soon modified, making division of such lands voluntary.[1] As a step in the direction of liberating agriculture from ancient obligations, an enactment was passed in 1791 freeing agriculture from the binding and minute regulations which in the past had destroyed individual initiative in matters of crop cultivation. The Government furthermore took steps to destroy large landholdings through confiscation of the lands held by the Crown, the nobility, and the Church. It has been estimated that in pre-revolutionary days possibly one fifth of the area of France was held by the nobility, and one fifth by the Church. After their confiscation a relatively small part of these lands was purchased by the peasant, but a substantial area was absorbed by the middle class, which let out its newly acquired lands to tenant farmers. Despite the intention of the revolutionary leaders, lands which had been confiscated from the nobility were in part returned to their former owners or purchased by them after the turbulent days of the Revolution had ended and the Napoleonic Government was firmly established. More than one half of the confiscated lands of this class was probably thus restored by the end of the Napoleonic régime. Of the land belonging to the Church, possibly a third or even more was bought by private individuals, the remainder being held by the State. In England, as we have seen, small peasant proprietors and tenant farmers were almost completely eliminated by means of enclosures and by the existing system of inheritance. France in pre-revolutionary days was also

[1] In 1803, even the voluntary division of the commons was prohibited.

burdened with entail and primogeniture, although egalitarian inheritance (equal distribution of the property of the deceased among his children) was frequently practiced. Both the Revolutionary and the Napoleonic Governments made the principle of partition obligatory. With the extension of territory under Napoleon, this practice spread into other parts of Europe where the *Code Napoléon* was in force. Even to this day, in territories outside of France, its influence is noticeable in the prevailing land tenure. In France egalitarian inheritance has notably contributed to the preservation of small peasant holdings, which to a certain extent has endangered agricultural progress, since the small peasant proprietor finds it difficult to obtain sufficient capital with which to purchase labor-saving devices and install other essential improvements. Besides, should he possess the necessary funds, it is quite probable that he would have comparatively little use for power-driven machinery because of the limited acreage which he cultivates.

The Napoleonic wars greatly stimulated agricultural production. The exigencies of warfare led to an effort to increase output in three ways: through improved technique, extension of the area under cultivation, and the introduction of new crops. From the defeat of Napoleon to about the middle of the century, agriculture made considerable headway, but largely in the direction of an increase in the area under cultivation rather than modification of agricultural technique, although crop rotation was beginning to be sedulously practiced by a large number of cultivators, and a few new crops were introduced. Agricultural implements were quite generally of the most primitive construction. The wooden plow was still in use and methods of planting and harvesting were much the same as in previous centuries.

That the small peasant proprietor or tenant would be unable to take advantage of many of the benefits of modern improvements was to be expected. Herein lies one of the real disadvantages of small holdings, inherent, too, in the law of egalitarian inheritance, which gives the peasant access to

the land, but simultaneously robs him of the possibility of obtaining many of the economies which the larger producer can easily afford. In comparison with newer countries, where extensive production could be profitably carried on without the expenditure of excessive amounts of physical labor, but which required a greater amount of capital, the French peasant was getting results which were not in proportion to his physical exertion. Thus, what the peasant gained by his industry he often lost by the greater effectiveness of foreign producers. Improvements in technique, involving scientific rotation of crops, and better methods of fertilization could be undertaken even by the small peasant; and while he might not be able to afford expensive farm machinery, at least he was able to buy a better plough and a few of the less expensive implements of modern design.

The industrial transformation, which came over England with remarkable rapidity after the newer industrial devices proved their practicability, was slow in affecting France, since the latter, in the early decades of the nineteenth century, was not in a position to undertake a reorganization of its industries. By natural aptitude, France was best fitted for perpetuation of an essentially agricultural state. Her laws of partition (egalitarian inheritance) and the love of the land which so clearly characterized her peasant population made even the smallest proprietor satisfied with a somewhat meager existence.

Fundamental changes were therefore necessary before the self-sufficiency of the rural districts could be broken down. Rural isolation was partially penetrated in the early decades of the nineteenth century by the construction of roads and canals, but was not completed until the railways and the telegraph had spread their network of intercommunication into the remotest sections of the country, and this was not fully accomplished until the last quarter of the century.

Although relatively slow progress was made in introducing labor-saving devices, increase in the total output of agri-

cultural products occurred. Between 1818 and 1889, the average yield of wheat lands per acre advanced from about 11 to 17½ bushels. The per acre yield of oats and barley likewise showed substantial improvement. Since 1831 the increase in the average yearly production of wheat also gives proof of the stability of French agriculture. While an uninterrupted increase is not to be expected in the yield of any agricultural crop, there has been a fairly steady increase in the production of wheat,[1] in spite of a decrease in the total area devoted to the cultivation of this crop.

The inherent strength of French agriculture, as contrasted with the weakened position of the English producer, is clearly shown by the import figures. Partly due to the diversity of agriculture and the existence of small holdings, and partly to the artificial stimulus of protective legislation, imports of wheat from the early part of the nineteenth century have been reduced to a very low figure. In fact, previous to 1875 the average annual importation was negligible in comparison with production. Not until the depression in the seventies is any substantial increase recorded. From 1871 to 1875 the average annual importation of wheat amounted to only 7.68 million cwt. For the next twenty years, however, it fluctuated between 19.92 (from 1886 to 1890) and 26.34 million cwt. (from 1891 to 1895). Importation of cereals has from time to time been necessary because of a deficiency in the domestic crop; but exportation of agricultural products has been made possible on an increasing scale through the diversity of French agriculture. The average annual value of agricultural exports from 1893 to 1897 amounted to 667,000,000 francs, increasing to 715,000,000 francs from 1903 to 1907.

[1] Within the present territory of France.

PRODUCTION OF WHEAT, 1881–1920

TEN-YEAR AVERAGE	MILLIONS OF HECTOLITERS *	TEN-YEAR AVERAGE	MILLIONS OF HECTOLITERS
1881–1890	109.1	1901–1910	115.4
1891–1900	110.7	1911–1920	87.2

* A hectoliter is about 2.75 bushels

But the conditions under which French agriculture flourished in the latter part of the nineteenth and the early twentieth centuries were somewhat different from those of former days. Protection, as in Germany, had gained the upper hand. Behind a tariff wall results could be attained which were very different from those which could be hoped for in a free-trade country like England. Among the wheat-producing nations of Europe, France in 1914 held a place second only to that of Russia. In total area devoted to its cultivation, she exceeded by many millions of acres the wheat fields of Germany and of England.

Next to wheat in importance comes viniculture and the wine industry. Production of barley, maize, rye, buckwheat, potatoes, and sugar beets also occupies an important position in the agricultural organization. The cultivation of the potato, "starting from humble beginnings early in the nineteenth century, had become a staple crop everywhere by 1850. Once the peasant had overcome his prejudices, he relied on it more and more, and the larger holders grew it for urban markets. By 1882 there were over 3,000,000 acres of potatoes in France, and by 1911 over 3,750,000 acres. . . . Between the same two years the French total crop had increased 66 per cent.; but this is not a decisive test owing to the great fluctuation in the yield of the potato from year to year. The crop of 1892 was over 50 per cent., but that of 1900 not much more than 20 per cent. beyond the level of 1882. Yet allowing for these variations, the general movement was decisively in the right direction."[1]

Difficulties in obtaining cane sugar from her foreign possessions during the Napoleonic wars, induced the French Government to undertake the systematic encouragement of the beet-sugar industry, which later grew to immense proportions, particularly in the early twentieth century. The growth of the dairy industry and the increase in the number of cattle since 1880 is further evidence of the progress of French agriculture.

[1] Clapham, *op. cit.*, p. 175.

THE DEPRESSION IN AGRICULTURE

The disastrous effect on English agriculture of the depression which occurred in the seventies has been referred to at some length. Foreign competition, one of the chief reasons for agricultural decline in Great Britain, also gave rise to considerable alarm in France, although the full force of competitive production never confronted the French agriculturist, thanks to the helping hand of the Government. Nevertheless, in the seventies and eighties the drop in the price of agricultural products seriously interfered with his prosperity. One of the causes for the depression is to be found in the withdrawal of capital from agriculture. New opportunities for investment had made less profitable the use of capital on land, and the agricultural interests suffered accordingly. Minor factors in the depression were the direct land taxes, which at times were extremely burdensome, the rise in wages resulting from the decline in the number of agricultural laborers and domestic servants, and absentee landlordism. The laws of transfer and inheritance of land might be added, although French writers have frequently denied that these factors entered into the problem. The food supplies of the country were being fairly regularly supplemented by foreign products, a condition which in 1878 and 1879 was particularly alarming, because of poor harvests. The fact that wheat was being imported meant little in itself, since in the twenty years from 1860 to 1880 a fairly regular importation had taken place; but the sudden increase in imports in the late seventies appeared to many to be the prelude to a very serious situation.

A similar depression, beginning in the seventies, occurred among the vineyardists. Following 1873 phylloxera and mildew ravaged the vine-growing districts of France. As these plagues grew worse, dependence upon foreign wines increased, especially from 1880 to 1900. This situation was particularly annoying to the vineyardists and wine manufacturers because of the unusual prosperity they had enjoyed just prior to 1873.

ENACTMENT OF PROTECTIVE LEGISLATION

As soon as it was found that foreign products were being imported and consumed in the home market to a degree that endangered the future of domestic production, the enactment of protective measures was advocated on all sides. To a degree, agriculture had been protected from outside competition from the very beginning of the century, but the self-sufficiency of the country had made such measures relatively unimportant. A change in policy of a very radical nature occurred during the latter part of the nineteenth century. In so far as agricultural products were affected by the tariff of 1881, protection was distinctly negligible. The alarming drop in prices in the first years of the eighties was sufficient argument to induce the Government to establish fairly heavy duties on agricultural products in the tariff of 1885, the tax on wheat being increased to 3 fr. per hectoliter. Duties were also imposed on a fairly large number of other agricultural products, including barley, rye, and oats. Two years later the tax on wheat was raised to 5 fr. and in 1897 it was advanced to 7 fr. By the Méline tariff (1892) and in subsequent legislation, practically all important agricultural products were given either partial or complete protection.

These laws were unquestionably effective in building-up domestic production. It is also true that the larger cultivators reaped the greatest advantage from protection, as had been the case in Germany. To be sure, the average annual price of wheat was higher from 1887 to 1891 (amounting to 24 fr. 70 per hectoliter on the Paris market) than from 1892 to 1896, when it dropped to 20 fr. 20. In the next decade it increased to 22 fr. 50. Although prices rose, the consumer was at least partially protected by the regulation of the price of bread by local government authorities. Consequently the tariff was not in every case as detrimental to the consumer as might be expected. Certain it is that the tariff was unusually effective in eliminating the importation

of foreign products, which was one of its main purposes.[1] After 1895 foreign importation decreased rapidly. The average annual importation of wheat alone fell from 26.34 million cwt. in 1881 to 1895, to 11.37 million in 1896 to 1900, and to 4.97 million in 1901 to 1903. Whatever may have been the immediate effect of the tariff, prices had to rise in the long run. In the tariff laws of the twentieth century, agriculture received its full share of protection in spite of the industrialization of the country, which demanded the serious attention of the Government.

DEPOPULATION OF RURAL DISTRICTS

In France, as in England and Germany, a tendency toward rural depopulation is to be observed, although the essentially rural character of modern France has prevented a very rapid diminution in the agricultural population. As late as the middle of the nineteenth century, more than three fourths of the total population was employed in agriculture. A quarter of a century later, when the population had increased to 36,905,788, the rural population alone numbered 24,928,392 persons or 67.6 per cent of the total.[2] The following table clearly shows the decline of the agricultural population from 1846 to 1906:[3]

Year	Total Population	Urban		Rural	
		Number	Per cent	Number	Per cent
1846	35,400,486	6,646,733	24.4	26,753,743	75.6
1856	36,139,364	9,844,828	27.3	26,294,536	72.7
1866	38,067,064	11,595,348	30.5	26,471,716	69.5
1876	36,905,788	11,977,596	32.4	24,928,392	67.6
1886	38,218,903	13,766,508	35.9	24,452,395	64.1
1896	38,517,322	15,025,812	39.1	23,491,520	60.9
1906	39,252,245	16,527,234	42.1	22,715,011	57.9

[1] All this tariff legislation, as affecting agricultural products, must be viewed in the light of the French policy of "tariff assimilation" of the oversea possessions. See Girault, Arthur: *The Colonial Tariff Policy of France.*

[2] Including the population of communities of less than two thousand inhabitants.

[3] Augé-Laribé, M.: *L'évolution de la France agricole,* p. 124.

Since 1846 there had been an absolute decrease in the agricultural population. This decrease was most pronounced in the case of day laborers and domestic servants. In the course of a single decade (1882–92), the number of agricultural laborers dropped from 1,480,678 to 1,210,081, and the number of domestic servants from 1,954,251 to 1,832,174. On the other hand, proprietors, tenant farmers, and *métayers* increased in number. But the total increase of 144,189 was more than offset by the total loss, which amounted to 250,369. The same tendencies are to be observed in later years.

The causes of rural depopulation in France are much the same as in other countries. While urbanization was under way in France, the same conditions prevailed in England, Germany, the United States, and for that matter in all countries that were expanding industrially. In certain of the more prosperous rural sections of the country a decided decrease in the birth-rate was in part responsible for this decline. The growth of population in the urban centers is in itself proof of the depopulation of the rural districts, since the total population of France has remained fairly stationary during the last few decades. In 1872 only 69 towns had a population in excess of 20,000. The number increased to 104 in 1891 and about twenty years later to 120.

To offset the deficiency in the labor supply as it gradually became more acute, it was necessary for many of the larger peasants to resort to the employment of foreign laborers. This fact seems to prove conclusively that the displacement of farm labor by machinery was by no means the fundamental cause for the rural exodus. In France, as elsewhere, the problem had deeper ramifications than appeared on the surface.

SIZE OF HOLDINGS

Division of the larger landholdings in France began at least as early as the seventeenth century and constituted an important phase of the agricultural history of that country

even before the Revolution. The establishment of egalitarian inheritance greatly encouraged the division of agricultural lands into relatively small holdings. The following table shows the size of landholdings from 1862 to 1908:[1]

Size of Holdings	1862	1882	1892	1908
Less than 1 hectare		2,167,667	2,235,405	2,087,851
From 1 to 10 hectares	2,435,401	2,635,030	2,617,558	2,523,713
From 10 to 40 hectares	636,309	727,222	711,118	745,862
From 40 to 100 hectares	154,167	142,088	105,391	118,497
Above 100 hectares			33,280	29,541
Total		5,672,007	5,702,752	5,505,464

The number of extremely small holdings (below 1 hectare) increased from 1882 to 1892, but a decided decrease occurred in the years following 1892. After 1892, holdings of from 1 to 10 hectares decreased, as did larger holdings (in excess of 100 hectares). The number of holdings of from 10 to 40 hectares, however, showed an increase. Of the total land holdings, possibly three fourths were cultivated by the owners and the remainder by tenants and *métayers*. The increase in the medium-sized holdings (from 10 to 100 hectares) has been due in part to the thrift of the peasant, which has enabled him from time to time to add new strips to his holdings.

France to-day is distinctly a country of relatively small holdings. The social distinction attached to landownership has never played as important a rôle in her history as it did in England. There was seldom any displacement of agricultural proprietors because of the desire for enclosures. Consolidation of peasant holdings was almost entirely the result of voluntary action on the part of the proprietors themselves. From the standpoint of the nation and of the individual cultivator, the absence of a large number of extensive landholdings had its disadvantages, but these were more than offset by the advantages inherent in small peasant proprietorships.

[1] Augé-Laribé, *op. cit.*, p. 103.

DEVELOPMENT OF COÖPERATION

As pointed out in the preceding chapter, the benefits of mutual aid through the organization of agricultural coöperative societies have been clearly demonstrated in the agricultural history of Germany. In France the restrictions upon professional organizations introduced in the early part of the century were removed in 1884, with the result that labor unions and other forms of federation were established. Coöperative societies were thus able to gain a foothold. France has benefited by the experience of other nations in matters relating to coöperative enterprise, but she can also recount many attempts which early evidenced the success of organized mutual effort. Societies for spreading knowledge of improved agricultural technique and for extending advice and aid to the agriculturist generally were formed before 1850. Agricultural *comices* — i.e., local organizations of cultivators — were likewise active in promoting the same principles. *Associations syndicales*, which had as their purpose coöperation in the building, upkeep, and regulation of systems of irrigation, drainage, and the like, represented another distinct form of coöperative endeavor, which more closely resembled the coöperative ideal of to-day than did the early agricultural societies and *comices*.

More important from the standpoint of the agriculturists are the *syndicats*, whose purpose it is to offer to the cultivator the advantages of coöperative buying and selling. Essentially, the *syndicats* exist for the purpose of effecting the economies which can be obtained through coöperative buying of fertilizers, farm implements, seeds, and the like. Coöperative distribution of agricultural products through the agency of the *syndicat* has also been a valuable service. Membership in these associations is not restricted to those who cultivate the soil, but frequently includes the agents of landowners and even the manufacturers of agricultural implements and artificial fertilizers. In most *syndicats*, however, the landowners predominate numerically, and definite restrictions are imposed upon admission to membership.

The services which these associations render are numerous and varied. Not to be overlooked are the efforts of the *syndicats* in promoting the general welfare of their members through education. In addition to the *syndicats* proper, special coöperative marketing and producing societies have been established, forms of coöperative endeavor which have met with particular success in the dairy and wine-making industries.

The effectiveness of these associations has been generally increased through the organization of district unions in which local *syndicats* hold membership, and the *Union Centrale des Syndicats Agricoles*, with which the local societies are also affiliated. Originally the *syndicat* did not concern itself with mutual credit and insurance, but with the growth of these societies their efforts were greatly extended, and coöperative insurance and credit were added to their already numerous functions. Among the organizations which exist solely for granting agricultural credit, the Durand Funds, (*Caisses Durands*), or communal aid societies, are of particular importance. The functions of the French coöperative rural credit associations also have been greatly enlarged through the financial support of the Government.

ORGANIZATION OF AGRICULTURAL LABORERS

The same difficulties which were encountered in other countries when the organization of agricultural laborers was first undertaken were also met with when attempts were made to combine the agricultural laborers of France. In England, the existence in the rural population of a fairly large number of landless laborers resulted quite early in attempts to organize the agricultural laborers. After many failures these attempts, in recent years, have met with some success. The stability and self-sufficiency of the French peasant population and the relatively small number of agricultural laborers made organization on a national scale extremely difficult. Nevertheless, strikes have occurred, from time to time, in the rural districts of France, and the

establishment of unions has frequently been the outcome. Between 1891 and 1904 serious labor disturbances occurred among the woodmen and vineyard workers, with the result that a number of unions were organized. In the agricultural districts of Seine-et-Marne in 1906 and 1907, labor troubles were again in evidence; in 1912 a strike also occurred among the vineyard workers of the Champagne. Since the war several labor conflicts of grave consequence have seriously disturbed the agricultural sections of the country. In spite of the partial successes attained, agricultural labor associations have not, on the whole, met with the same success as those in the industrial centers.

DEVELOPMENT OF EDUCATIONAL FACILITIES

The Ministry of Agriculture in France has been extremely active in promoting education and offering advice to the agricultural interests of the country. Other educational agencies have been the National Agronomic Institute, and the special schools established by the various departments for the purpose of spreading advanced technical knowledge. The *écoles pratiques d'agriculture* have undertaken education of a more elementary nature for the benefit of the poorer peasants and other classes in the rural districts who may be financially unable to attend the larger agricultural colleges.

FRENCH AGRICULTURE AND THE WORLD WAR

Few countries were so sorely affected by the World War as was France. Hundreds of thousands of the most fertile acres of the country were laid waste and permanent improvements valued at billions of francs were destroyed. Added to this was the loss of movable property on the farms located within the area of active combat which had to be replaced before the peasant could be expected to attain the production reached in the years preceding 1914. Before the war was ended the problem of restoring the lands which had been laid waste had been taken in hand and constructive measures were passed looking toward their rehabilitation. But the

real problem came after the armistice. The Government proceeded in this reconstruction with astonishing vigor. Replacement of the peasants' equipment called for indemnification for losses suffered, and through the financial aid and enterprise of the Government hundreds of thousands of acres were recovered from the grim use to which they had been put. Official figures indicate that out of approximately 3,337,000 hectares laid waste during the War,[1] over 95 per cent had been recovered by the beginning of 1925, and most of the remainder was land of little value at the outset.

The rural labor shortage was particularly acute in France during the war, about five million peasants being mobilized altogether. Fertilizers were available only in much smaller quantities and agriculture was otherwise demoralized. Wheat production fell off nearly half, and a substantial decline in the output of other grains, as well as of potatoes, occurred. Within a half-dozen years after peace was restored, French self-sufficiency had been practically reëstablished as in 1914, much as England had fallen back to her pre-war dependency during the same period. During the war, colonial natives, particularly North Africans, were encouraged to come in as laborers, and many Spaniards and other foreigners also seized the opportunity for high wages. The shortage has continued, due both to the number killed in the war and to an accelerated movement to the towns. The problem of Algerians, Tunisians, and Moroccans is much lessened by the fact that they usually return to their homes after accumulating a little money, but that of the Italian emigrants has become acute in some sections particularly since the recrudescence of violent nationalism has obstructed naturalization. France is in the dilemma of needing a minimum number of agricultral colonists for North Africa to keep her civilization and language there from being swamped by Italians, Spaniards, and natives, but of being able to furnish them only at the expense of making way for a dangerous

[1] About eight and one fourth millions of acres. Only about half of this presented serious difficulties in restoration.

amount of foreign immigration at home or seeing land abandoned for want of cultivators.

In spite of complaints and criticisms, French agriculture is in about as satisfactory a condition as any in Europe. The climate and soils are quite diverse, but a large percentage of the surface is really exceptional land. Adding Alsace-Lorraine, a good agricultural country as well as a great industrial region, will not greatly upset the pre-war figures of 48 per cent arable, plus 4 per cent in vineyards, 19 per cent forests, 12 per cent grass lands, and only 17 per cent classified as "unproductive" (which included the surface of town sites and other residence areas, rivers and other bodies of water, as well as mountainous, marshy, and otherwise entirely unutilizable lands). The surface of Germany was divided up about the same, as seen at a glance, but her lands were poorer on an average, and she had a population of 120 to the square kilometer, as compared with 74 for France. The United Kingdom had about 146 per square kilometer, and over 65 per cent of her surface was grass land, only about 13 per cent arable, and about the same fraction unproductive as in France.

Compared with her great northern neighbors, France is seen as a predominantly agricultural country, more than half her population actually living on and from the land. Aside from certain tropical products, her soil can very nearly furnish the necessary food for her people, and there are some agricultural exports to help cover the imports. While such an economic system may, of course, tax her industrial resources and run her into debt during a war, it has its decided compensations in the long run. As compared with France, industrialized Central Europe, and even victorious England, went through a fearful economic crisis in the period of world dislocation just after the war. Some of France's freedom from unemployment was due to reconstruction work, charged to the still-unhatched golden eggs of reparations, but this is far from being the whole story. A low population density and a highly developed, practically

self-sufficient agricultural society, make a valuable insurance policy against unsettled times. Set off against this are the dangers of relatively weak man-power and martial industries on an armed continent, and the difficulties of pursuing empire outside without any leaven of surplus population to send.

The future of France's agriculture, like that of Great Britain, is inextricably bound up with her economic position in the world. If she is to become more industrialized, as seems likely since her recovery of Alsace-Lorraine, the process must inevitably be accompanied by a drift of population from country to town. In fact, this is already apparent. Any considerable increase in the use of farm machinery would affect the system of small holdings, especially if combined with a marked rise of manufacturing. Considering the low birth-rate, the relative well-being of the peasant, and the tenacity of French institutions in the past, it is hard to see such a change in the immediate future or to expect its swift accomplishment.

SUGGESTIONS FOR FURTHER READING

Académie d'agriculture de France: *Annuaire; Bulletin des séances; Compte rendu mensuel.*

*Augé-Laribé, M.: *L'évolution de la France agricole.*

Baudrillart, H.: *Les populations agricoles de la France.* 3 vols.

Bussard, O.: *Le livre de la fermière, économie domestique rurale.*

*Chauveau, C.: *La France agricole et la guerre*, vol. I.

*Clapham, J. H.: *The Economic Development of France and Germany, 1815–1914*, chaps. III, IV.

Compère-Morel, A. C.: *La question agraire et le socialisme en France.*

*Flour de Saint-Genis, E.: *La propriété rurale en France.*

Hitier, H.: *Systèmes de culture et assolements.*

Kovalevsky, M.: *La France économique et sociale à la veille de la révolution: les Compagnes*, vol. I.

Lavergne, L. G. de: *Économie rurale de la France depuis 1789.*

*Lutchisky, J.: *L'État des classes agricole en France à la veille de la Révolution.*

Meredith, H. O.: *Protection in France*, chap. IV.

Nicolle, F.: *Assolements et systèmes de culture.* 2d ed.

Ogg, F. A.: *Economic Development of Modern Europe*, pp. 92–103; 187–200.

*Rew, R. H.: *An Agricultural Faggot*, chap. X.

*Sée, H.: *Esquisse d'une histoire du régime agraire en Europe aux xviii^e^ et xix^e^ siècles.*

Sée, H.: "Les progrés de l'agriculture de 1815 à 1848," in *La vie économique en France de 1815 à 1848.*

——— *Economic and Social Conditions in France during the Eighteenth Century,* chaps. I, II.

*Souchon, A.: *Agricultural Credit in France.*

——— *Agricultural Societies in France.*

——— *Coöperation of Production and Sale in French Agriculture.*

Strutt, H. C.: "Notes on the Distribution of Estates in France and the United Kingdom," in *Journal of the Royal Statistical Society,* June, 1910.

Young, Arthur: *Travels in France.*

CHAPTER VIII

GROWTH OF ENGLISH INDUSTRY SINCE 1800

GENERAL SURVEY OF INDUSTRIAL PROGRESS

English industrial supremacy in the nineteenth century rested upon a complex group of factors. All were closely linked with two historical facts, both associated with her insular position: (1) the earlier occurrence of the Industrial Revolution in England; (2) her territorial isolation from the Revolutionary and Napoleonic wars of the Continent. By encouraging the establishment of colonies, Great Britain had been able to obtain markets which were not likely to be influenced by the continually recurring political disturbances on the European Continent. Her markets were therefore reasonably stable and capable of expansion. If England had depended solely upon Europe for the disposal of her surplus goods, her commerce would have been far more frequently interrupted and her manufacturers would have suffered as did their competitors on the Continent, who were directly exposed to the devastating effects of the wars of the nineteenth century.

The insular position of Great Britain has been a factor as important in the almost uninterrupted progress of British industry and commerce as it was in their early establishment. British markets have been easily accessible and her opportunities for obtaining raw materials almost unlimited. In the struggle for industrial supremacy, she was greatly aided by the fertility of her soil, by a temperate climate, and by an absence of difficult geographical barriers to the development of the means of communication. The construction of canals and of railways was for England a relatively simple matter in comparison with other countries less favored. Moreover, the two basic raw materials upon which modern industrial organization largely depend, coal and iron ore, were found in

close proximity, thereby making possible a rapid extension of the iron and steel industries once coke-smelting had displaced the charcoal furnace. English industry also enjoyed the benefits that were to be derived from a liberal government policy, which gave the manufacturer an opportunity to pursue his activities without the interferences which at times handicapped his foreign competitors.

Favored by the advantages of an early start, English industry forged rapidly ahead during the first half of the nineteenth century and for a time held many of the most desirable markets of the world. Her industrial plants produced commodities which had world-wide demand. The quality of her goods could not be surpassed. In the application of the machine process and the development of a merchant marine, she maintained undisputed leadership until the closing years of the century. Not until other countries began an extensive exploitation of their natural resources and undertook the production of goods on a large scale was a disturbing element introduced into the peaceful expansion of English industrial enterprise.

Improvements in industrial technique, which continued almost uninterrupted throughout the century and revolutionary changes in the means of communication, greatly stimulated industrial activity. Practically every branch of industry underwent expansion; the engineering industries showed astonishing growth; an increased production of coal and iron ore kept pace with the ever-growing demand for fuel and raw material; docking facilities were improved; better and more economical methods of handling raw materials and manufactured goods were devised. At the same time fundamental developments were taking place in business organization. Large-scale production demanded the training of efficient managers and the expansion of markets called for improvements in the mechanism of exchange. By the third quarter of the century exportation of manufactures became of foremost importance, and the importation of raw materials and foodstuffs grew steadily. The results of the

revolution in the means of transportation were making themselves felt and industrial concentration became an essential factor in economic growth.

The last quarter of the nineteenth century found Great Britain facing the results of successful industrial enterprise on the Continent and in America. The English manufacturer suddenly realized that he was exposed to a condition not unlike that already existing in agriculture. His position was no longer secure as in the years immediately following the Industrial Revolution; he now found himself compelled to compete for his markets. The unwillingness of many Englishmen to modify their business methods to meet these new conditions was in part responsible for their loss of control in recent times of the markets which they had earlier conquered without serious opposition. Many English manufacturers persisted in believing that foreign competition could be overcome without a drastic revision of business tactics. This lack of adaptability has been by no means a negligible factor in the relative decline of English wares in the markets of the world. But it must not be assumed that English manufacturers were wholly responsible for their predicament. Exploitation of natural resources could be accomplished more cheaply in those countries not yet highly industrialized than in the older countries where the expense of obtaining raw materials was frequently very much greater. In competing with his European and American rivals, the English producer was therefore at a disadvantage.

The final quarter of the century was a trying period for industry in general, Great Britain being particularly affected by its vicissitudes perhaps mainly because the bulk of her business was so large. The increase of British trade with the Continent was only one feature of a growing international economic interdependence.[1] Especially after the depression of 1893, the competition of Germany and the United States began to be felt. Protective tariffs, against which

[1] *Memoranda, Statistical Tables and Charts with Reference to British and Foreign Trade and Industrial Conditions*, first series, 1903, (Cd. 1761).

Great Britain could not retaliate because of her dependence upon world trade, cut into the markets of some industries.

The most cursory survey of the industrial development of Great Britain during the nineteenth century would show that her prosperity rested upon a relatively small number of industries. Foremost among these was the manufacture of cotton goods. Both the flying shuttle and the spinning jenny had been introduced with little necessity for immediate readjustment in the existing economic organization. They were easy to make, and could be used at home. The use of water power had caused some dislocation. Especially did the spread of factory methods to new processes and kinds of goods emphasize the advantages of just the right kind of climate for the handling of delicate fibers as automatically as possible.

Wool-combing and weaving were at first relatively unaffected by the machine technique. The Napoleonic wars were in part responsible for the slow introduction of weaving machinery. Prices were high enough to ensure profits, and the labor shortage was made up by putting women and children to work. The putting-out system was extremely tenacious in the woolens. Its firms were old and often strong, and the hand-loom weaver fitted very well into their commercial type of organization. Until after 1820, the power loom was still imperfect, and not particularly important even in the cotton industry. The usual estimate of the total number in England at that time is around 12,000, as against 2400 in 1813 and 85,000 in 1833. If we go back to 1806, we find only 8000 of the 466,000 pieces of cloth manufactured in Yorkshire turned out by factories.

By 1840 the independent spinner and weaver had ceased to be of any great importance, although the elimination of the domestic worker was not yet complete. In some processes, such as wool-combing, handicraft methods maintained an important position until much later. Homespun yarn had been practically eliminated, however, and the remaining weavers were largely settled in the vicinity of the spinning

mills. The triumph of the weaving machinery was due both to its savings in the cost of manufacture and to the willingness of the market to absorb a larger volume of goods. The remarkable development of the cotton industry is shown in the increased consumption of raw cotton:[1]

Year	Pounds of Cotton Consumed
1781	10,900,000
1790	30,600,000
1800	51,600,000
The average of 1800 to 1814	64,100,000
The average of 1815 to 1829	144,000,000
The average of 1830 to 1844	373,400,000
1845	592,000,000

At first the manufacturer depended largely upon the limited supply of raw cotton which he could obtain from the British West Indies and Turkey. Increase in cotton production in the United States added considerably to the world supply even before the opening of the nineteenth century. The importation of raw cotton, which was by no means negligible previous to 1850 now increased enormously:

Year	Pounds of Raw Cotton Imported
1856	920,000,000
1860	1,086,400,000
1870	1,075,200,000
1880	1,377,600,000
1890	1,657,600,000
1900	1,624,000,000
1908	1,724,800,000

The English manufacturer took full advantage of the opportunities offered and soon produced cotton goods far in excess of the domestic demand. Exportation of these surplus manufactures became essential to the success of the industry. From about £7,050,000 in 1801, the official value of exports of cotton goods rose to above £112,000,000 in 1849. A steady growth in the number of spindles also reflects the prosperity of the cotton textile industry. From 37,516,000

[1] Porter, G. R.: *The Progress of the Nation*, p. 309. The figures for American cotton production below are from the same source.

in 1874 the total increased to 43,905,000 in 1903; by 1913 over 50,000,000 spindles were in operation.

The inventions which had so remarkably influenced the progress of the cotton industry likewise had a revolutionary effect upon the manufacture of woolen textiles. Previous to 1850, the woolen industry had depended largely upon raw wool grown in England, the supply of which had increased considerably during the first half of the century. Before modern methods of production had been introduced, the raw material from this source slightly supplemented by imports from abroad had been quite sufficient to satisfy the demands of the handicraftsmen. Once power machinery had been introduced, the scarcity of the supply of home-grown wool became acute at times. Fortunately for the English wool manufacturer, a new source of supply was created in the second half of the century, when Australia, Tasmania, Cape Colony, and to a lesser extent South America materially increased their exports to Great Britain. The extent of Britain's importation of wool is shown in the following table:[1]

IMPORTS OF WOOL

YEAR	QUANTITY (Including woolen rags) (lbs.)	VALUE (£)	RE-EXPORTS (lbs.)
1850	74,326,778	.....	14,388,674
1860	148,396,577	11,031,479	30,761,867
1870	263,267,709	15,812,598	92,542,384
1880	463,508,963	26,375,407	237,408,589
1890	633,028,131	28,025,687	340,712,303
1895	775,379,063	28,494,249	404,935,226
1905	620,350,885	26,648,737	277,864,215
1908	723,820,547	30,746,990	326,312,398

Another indication of the growing importance of the woolen industry is to be found in the export of textiles. In 1820 the declared value of such exports amounted to £5,586,138, advancing to £7,693,118 in 1845. Francis W.

[1] Porter, *op. cit.*, p. 337.

Hirst describes the development of the woolen industry in the following words: [1]

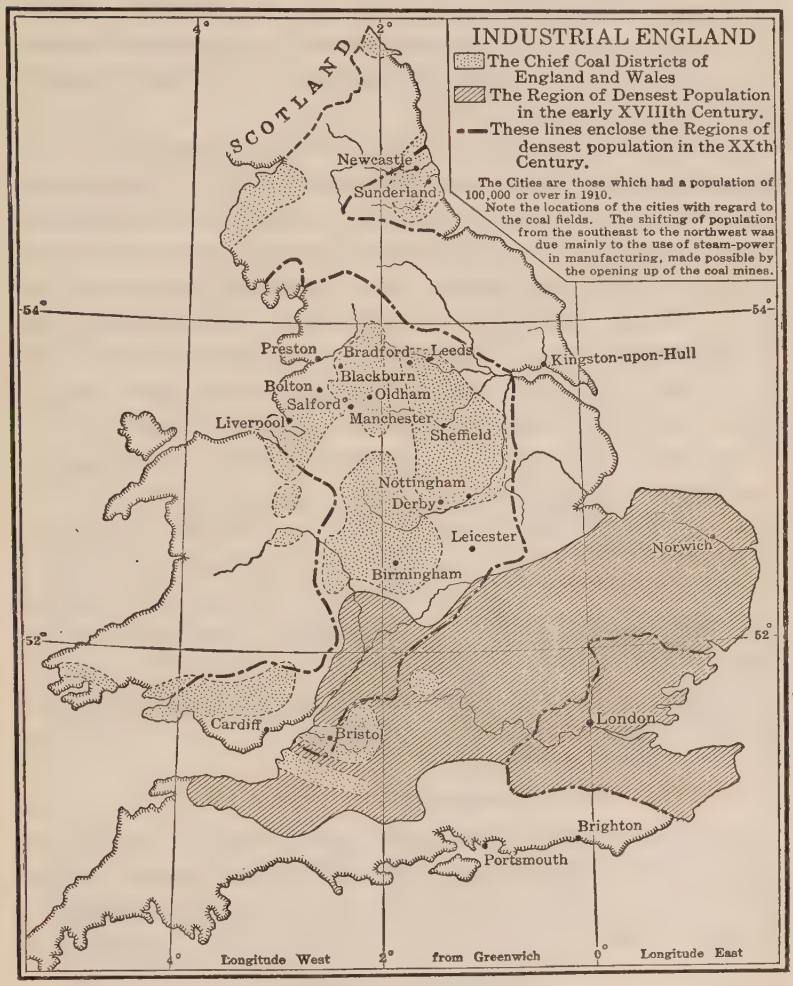
"The wool trade, like every other trade, has its ups and downs; but the general movement has been from higher to higher levels. Its first stimulus came from the repeal of the Corn Laws; its second from the Cobden Treaty of 1860, under which the duties on British woollens entering France were lowered, and the trade between the two countries was stimulated. Next came the Civil War in the United States, and the cotton famine from 1861 to 1865, which gave another impetus to the wool industry, with a corresponding inflation of prices, followed by a fall. And, fourthly, the Franco-German War in 1870–71, when, during the stagnation of production in the countries engaged in the war, there was the greatest boom ever known in the British wool industry, which, however, was to be surpassed in 1907, and again in 1909 and 1910. In many trades, the profits made in these good years were invested in new buildings and plant at a time when prices were at their highest, and, instead of the prosperous times continuing as was expected by many, there followed a severe shrinkage of values and of demand, both for home and export, intensified by a change of fashion against the bright goods of England and in favour of the soft all-wool goods of France. The loss of capital and employment towards the end of the ''seventies,' resulting from over-expansion and the fall of prices, was the greatest ever experienced in the history of the trade, and seriously retarded for some time the prosperity of the wool industry.

Twenty years later the Boer War caused a severe depression, but if we compare our unprotected trade with the protected trade of our chief rival, France, we shall see not only our greater strength in surmounting tariffs, and finding neutral markets, but also our greater recuperative power after periods of depression. In 1882 British exports of wool manufactures were valued at £22,200,000, those of France at £17,700,000. In 1896 ours had increased to £27,100,000, while the French had fallen to £12,900,000. In 1898, under the Dingley Bill, ours had fallen to £21,900,000, and the French to £10,100,000. In 1907, a record year of international trade, the exports of our wool manufactures had risen to the magnificent figure of £34,200,000, while those of France were valued at only £12,100,000. In 1882, Free Trade Britain led Protectionist France by only £4,500,000; in 1907 she had increased this lead to 22 millions. The truth is that where our workpeople are skilled, and our millowners enterprising, the cheapness of food, clothing,

[1] Porter, *The Progress of the Nation*, pp. 333–34. Methuen Co., London, 1912.

and of all other things which enhance the efficiency of workers, and reduce the cost of production, make it difficult for foreigners to compete.

Moreover, an important development, consequent upon the extension of machinery in the German and other foreign woollen industries, is our increased export of yarn. . . ."



THE EXTRACTIVE INDUSTRIES

The condition of the extractive industries likewise reflects the progress of British industry during the nineteenth

century. The increased output of the mines, beginning early in the century, was largely due to the extensive application of steam power to industry, which meant a large consumption of fuel, and to the growing demand for metals used in a great variety of manufactures. It should be noted that the introduction of improved mining technique and better transportation facilities which were rapidly perfected during the nineteenth century, played a significant part in the growth of the output of the mines.

The inventions of Watt and Boulton (1765 and 1774), the improvement of roads, and the construction of canals and later of railways were of great importance in the extension of coal mining. Watt's invention brought about a revolutionary change not alone in the drainage of the mines, but also in driving shafts and in removing coal from the pit. Besides, many other improvements were introduced. The use of coal pillars as supports in the mines was largely eliminated, the wooden support being substituted.

Complete statistics for the production of coal during the first half of the nineteenth century are not to be had. The extent of the growth in coal production, however, is indicated by the increase in the shipment of coal from Newcastle, which in 1801 amounted to 1,331,870 tons and increased to 2,977,385 tons in 1849. Coal exports from several other ports showed an equally remarkable growth. Beginning with the second half of the century, the coal mines of England yielded a constantly increasing output.[1]

THE IRON AND STEEL INDUSTRY

In the production of iron and steel, progress has been nothing short of phenomenal. In 1796 official statistics show that in England and Wales only 104 iron furnaces were in operation with an output of approximately 108,000 tons.

[1] PRODUCTION OF COAL

(Ten-year averages)

DECADE	TONS	DECADE	TONS
1880–1889	160,783,966	1900–1909	242,541,666
1890–1899	191,078,546	1910–1919	256,544,513

The opening of the nineteenth century witnessed a period of marked prosperity. An output of 1,200,000 tons was estimated for the year 1836; four years later production had increased to 1,500,000. Many factors contributed to the expansion of the iron and steel industry in the years that followed. Foremost among these was the steadily increasing demand for iron and later for steel, in railway and steamship construction. That the increased demand for iron ore which followed far exceeded the available supply [1] from domestic sources is shown by the fact that imports rose from 2,632,601 tons in 1880 to 6,297,963 in 1900; reaching 7,020,799 tons ten years later. By far the largest single supply of foreign ore was obtained from Spain, although imports from Greece, Italy, and several other countries have been by no means negligible.

The production of pig iron in England quickly responded to the needs of industry, advancing from 3,826,752 tons in 1860 to above 9,000,000 tons in 1908, 4,209,403 tons of which were produced from foreign ores.

DEVELOPMENT OF MEANS OF COMMUNICATION

The development of internal means of communication in England began in the eighteenth century with the extension and improvement in road construction, following the successful efforts of Macadam, Metcalf, and Telford. The growth of industry, especially the sudden shift of the more important industries to within close proximity to the coal and iron ore deposits, greatly intensified the need for better roads, and the increase between 1800 and 1850 in the number and effectiveness of toll roads in every section of the country bears witness to the rapid progress of road construction.

The second phase in the evolution of the means of com-

[1] Production of iron ore in the United Kingdom since 1880:

PRODUCTION OF IRON ORE

(Ten-year averages)

DECADE	TONS	DECADE	TONS
1880–1889	15,878,800	1900–1909	14,207,700
1890–1899	13,018,400	1910–1919	14,484,300

munication — canal construction — began with the completion in 1761 of the Bridgewater Canal, between Worsley and Manchester. The successful operation of this canal stimulated construction in other parts of the country. From 1760 to 1800 several private companies were organized so that considerable progress was made even before the opening of the nineteenth century. From 1800 to 1850 canals were of importance in promoting the industrial development of the country, since many bulky goods could now be carried not only more cheaply but with far less difficulty than before. The total length of English canals gradually increased to nearly 4000 miles in 1906, but their relative importance had greatly diminished due to the competition of the railway. The latter, long before the steam engine was first introduced, had demonstrated its feasibility in the form of tramways. In the years immediately following the first successful efforts to utilize the steam engine in locomotion, relatively little was accomplished. After 1836, however, the number of railways completed, and those projected, increased to an astonishing extent. By 1845, 2264 miles were in operation in the United Kingdom. Then followed a period of extraordinary growth, the total mileage increasing from 6621 in 1850 to over 10,000 by 1860 and to 15,537 ten years later. After 1870, while additions to the railway mileage were fairly continuous,[1] it compared unfavorably with the development in earlier years. This was to be expected, for even before the opening of the present century the country was well provided with a network of railways.

[1] Miles of Railway in Operation (United Kingdom)

1845	2,264	1885	19,169	1900	21,855
1850	6,621	1886	19,332	1901	22,078
1855	8,053	1887	19,578	1902	22,152
1860	10,433	1888	19,812	1903	22,435
1870	15,537	1889	19,943	1904	22,634
1875	16,658	1890	20,073	1905	22,847
1876	16,872	1891	20,191	1906	23,063
1877	17,077	1892	20,325	1907	23,108
1878	17,333	1893	20,646	1908	23,205
1879	17,696	1894	20,908	1909	23,280
1880	17,933	1895	21,174	1910	23,387
1881	18,175	1896	21,277	1911	23,417
1882	18,457	1897	21,433	1912	23,441
1883	18,681	1898	21,659	1913	23,691
1884	18,864	1899	21,700	1914	23,701

GROWTH OF SHIPBUILDING

Although the construction of the steamship had proceeded rapidly after the successful experiments of Fulton in 1807, it was not until 1838, when the Sirius and the Great Western crossed the Atlantic, that the triumph of steam navigation was fully assured. This success was followed by the establishment in 1840 of the first regular trans-Atlantic steamship line. After 1840 the growth in the tonnage of steamboats registered in the United Kingdom increased rapidly. By 1850 it amounted to 168,474 tons; twenty years later it had increased to over 1,112,934. Yet the displacement of the sailing vessel by the steamer did not come, in the case of Great Britain, until much later in the century.

GROWTH OF THE SHIPBUILDING TRADES

YEAR	SHIPS BUILT					
	SAILING		STEAM		TOTAL	
	Number	Tons	Number	Tons	Number	Tons
1840[1]	1,296	201,111	74	10,178	1,370	211,289
1850[1]	621	119,111	68	14,584	689	133,695
1860						
1870	541	117,032	433	225,674	974	342,706
1880	348	57,580	474	346,361	822	403,841
1890[2]	277	123,224	581	528,789	858	652,013
1900	568	46,010	845	886,627	1,413	932,637
1910	348	28,250	730	670,219	1,078	698,469

[1] 1840–50 vessels built and first registered in the United Kingdom; after 1850 vessels built whether registered or not.
[2] Not including vessels built for other countries and for the navy.

Meanwhile there likewise occurred changes of fundamental importance in shipbuilding. G. R. Porter was able to write as early as 1845: "The building of iron ships is fast becoming an important branch of national industry; it is one in which our mineral riches and our great mechanical skill will secure to us a virtual monopoly."[1] The history of shipbuilding fully justified this prediction. In the total tonnage constructed by British shipyards the increase has been phenomenal, es-

[1] Porter, *op. cit.*, p. 258.

pecially in the last quarter of the century. From 342,706 tons in 1870 construction increased to over 932,000 tons in 1900. While not maintaining nearly as high a record as in 1900, the shipbuilding industry of Great Britain has continued to be one of great importance.

INDUSTRIAL CRISES

The fairly regular recurrence of periods of prosperity followed by periods of depression is one of the outstanding phenomena of modern economic history. Previous to the opening of the last century, industrial crises were more local in character, although overinvestment in speculative companies was frequently followed by serious economic disturbances, and political upheavals sometimes endangered the economic stability of more than one nation. Ease of communication has resulted in a much greater interdependence of nations through intensive specialization in production. It is almost impossible to date these crises, as their passage from one country to another is often delayed. Moreover, one may prove severe in England and fairly mild on the Continent, or the reverse. There is considerable evidence of a looseness of definition; what seems a "crisis" to one writer not being accepted as such by another.

Jevons gives 1815 as the date of the first important crisis in England during the nineteenth century. This was rather a characteristic disturbance, involving as it did both an industrial, commercial, and agricultural readjustment after a long war and difficulties with inflated currencies. As far as the disturbance in England was concerned, however, it is probable that the troubles of 1810–11 were equally great. One of the most obvious symptoms of a depression is usually the accumulation of manufactured goods which the market refuses to absorb, but it would be rash to call this a "cause." The statement will probably go undisputed that the one unfailing predecessor of a general crisis is inflation; but inflation has its industrial as well as its financial aspects.

Besides periods of world-wide depression, there are local

crises, and those which chiefly affect particular industries. For example, the English cotton industry had a very bad time during the American Civil War, due to the scarcity of the raw product. British iron and textile industries, as well as finance, felt the American crisis of 1857, following a period of overspeculation. The most familiar and recent case of general depression is that following the World War. Note, however, that it did not follow immediately, but only after a period of feverish industrial activity, speculation, and some of the most amazing examples of inflation. The factor which we have given last was really first, remaining over from the war.

Some factors may be brought into play by the force of extraordinary circumstances and yet continue to operate afterward. An example is the stimulation of Egyptian cotton production because of the failure of the American supply during our Civil War. Egypt has continued to be an important source of cotton — especially of certain fine grades. This commercial crop has had vast effects upon her whole economic system, upon social classes, political ideas, and foreign relations. Similarly, the shortage of British coal during the World War hurried the opening of mines in various quarters of the globe. Some of these paid, once they were opened, affecting the market for the British product after the war. So it was also with cotton spinning in the Orient and in the United States. The German chemical industry suffered permanent losses to Great Britain, America, and France, strong nations which were inclined to protect their own factories, once established — especially considering the military importance of this class of manufactures. On the other hand, the coal mines developed in French North Africa during the war were unable, in the main, to meet the post-war competition.

UNIONISM AND SOCIAL LEGISLATION

The Molestation of Workmen Act of 1859 made it lawful "to persuade workmen by peaceful means to abstain from

working in order to raise their wages."[1] Although much of the ground covered had already been won in practice, the passage of the Trade-Union Act and the Criminal Law Amendment Act in 1871 marked a new era in the legal position of labor combinations. The main provisions of the Trade-Union Act were the definite legalization of labor organizations and the withdrawal of common-law restrictions which had been effectively used at times. The trade unions were now permitted to register as benefit societies, to hold property, and to receive the protection of the law in respect to their funds. At the same time, the Criminal Law Amendment Act was passed, providing for the prosecution of trade unions adopting a policy of molestation, intimidation, obstruction, or similar practices. Many of these restrictions were finally withdrawn in 1875 and 1876. Peaceful persuasion to abstain from work was at last completely legalized, and it was provided that the actions of trade unions were not to be interfered with unless their activities were illegal "when committed by an individual." Following the passage of this legislation many new unions were organized, trade-union congresses were held for the purpose of formulating national policies, and a more unified labor program was laid out. After 1875 the trade unions gained steadily in membership and influence, and many of the remaining restrictions which still existed were withdrawn.[2] Trade-unionism also became a political force, although it was not until 1893 that any definite action was taken to establish an independent labor party.

The greatest single setback to British unionism proved to be merely temporary. It is usually known simply as the Taff Vale case. The Welsh railway company of that name

[1] Stone, Gilbert: *A History of Labor*, p. 236. A sketch of the earlier progress of labor organization and legislation has been attempted in Chapter IV above, where it was suggested that the general course of unionism in England was not clearly apparent until about the middle of the nineteenth century.

[2] In 1895 about 1,000,000 workmen were affiliated with the Trades-Union Congress. By 1920 the total had increased to more than 6,500,000. The industrial depression of 1921–23 resulted in a marked decline, the total for 1922 being only slightly in excess of 5,000,000.

sued the Amalgamated Society of Railway Servants for damages resulting from a strike in 1900, and was awarded £23,000 (about $115,000) damages by the House of Lords. This decision was given, reversed, and finally confirmed in 1901. The principle involved was the liability of unions for the acts of their members, and the right of an injured employer to collect damages by law from funds amassed for other purposes, which had been supposed to be immune from such attachment. It was extremely important, as it made organized labor vulnerable even where the unorganized laborers were not, since they usually had too little property to make a suit worth while. Since the Lords' interpretation of the existing laws was final, Labor went into politics to secure such an amendment of the Conspiracy and Protection of Property Act of 1875 as to make decisions like that in the Taff Vale case impossible. The opportunity arose at the end of 1905, when Labor helped the Liberals under Campbell-Bannerman to overturn the Conservatives, and was rewarded in 1906 by the passage of the Trade-Unions and Trade-Disputes Act. Its most important provision was to put the funds of unions beyond damage suits because of the alleged "tortious acts" of members on behalf of the organizations.

In 1909 the House of Lords confirmed the so-called Osborne Judgment, which forbade labor unions to assess their members in order to pay members of Parliament. At that time these members were not paid a salary by the State, and the only means of keeping poor but suitable representatives in office was by such contributions. The problem was partly solved in 1911 by the adoption of a salary of £400 a year. A new Trade-Union Act in 1913 redefined such bodies as temporary or permanent combinations with the principal and statutory objects of trade regulation and benefits for members. While its wording was so ambiguous as to give rise to lawsuits later, it established the principle that unions may accumulate political funds, provided the ends have been decided upon by secret ballot and the contributions are not compulsory.

To protect its interests, the Labor group was gradually drawn formally into politics. Since the enfranchisement of a considerable fraction of the laboring class by the Reform Act of 1867, Liberal candidates had catered more or less to the views of the new voters. Two avowed Labor candidates were elected to Parliament in 1874 through a combination with the Liberals. The group rose to ten in 1885, the year following a new Reform Act, further broadening the franchise. By 1892 the entire Labor contingent in the House of Commons was sixteen, including a new element of genuine radicals with socialistic leanings and an interest in the unskilled as well as the skilled laborers. The Independent Labour Party, founded in 1893, was distinctly socialistic in its avowed final aims, and also had an immediate program to which its members in the House of Commons were strictly pledged. This included sickness and old-age insurance, progressive taxation of unearned incomes, disarmament, and later woman's suffrage. The Fabian Society had been founded in 1883, led in its early years by famous men such as Sidney Webb, George Bernard Shaw, and Graham Wallas. It was largely propagandist, and quite non-revolutionary in its principles, as the name suggests. The Democratic Federation, founded three years earlier, was strictly Marxist and revolutionary.

The Labour Party of to-day dates from 1900. At first, it was unionist and non-socialistic. By 1906 it had twenty-nine members in Parliament, in a total Labor contingent of fifty-four, the remaining twenty-five consisting of various socialistic and non-socialistic elements. The Labour Party drew up a moderately socialistic resolution in 1907, and many of its members, such as J. Ramsay MacDonald and Philip Snowden, were avowed socialists. Due to its flexible organization and moderate policies, and also to the growing weakness of the Liberals and their dependence upon outside support, the party grew enormously up to the World War, in spite of its socialistic leanings in a country traditionally conservative. Emerging from the political truce incident to

the war, the Labour Party became the most vigorous opposition group for five years, and became the ruling Government for nearly a year, following December, 1923.

As Labor has organized itself politically, and also affected politics by voting or trading with less specifically laborite groups, *laissez-faire* has largely crumbled. Whether social legislation belongs mainly to political or to economic history, it has had economic effects which cannot be ignored. There is no sharp line of demarcation between the two fields, the only question about incorporating such materials being the practical one of the space they deserve at the expense of other things. Germany had been the pioneer in social insurance legislation, beginning with sickness insurance in 1883, and developing a most remarkable system by the end of the century.[1] While the German scheme was violently criticized in Great Britain for twenty years, its amazing practical success finally led that country into the same path, which she followed with an enthusiasm and thoroughness equaled only by that of Germany herself.

When the Liberal Party came into power, with Labor support, at the end of 1905, it was pledged to a program of old-age pensions and other social legislation as well as a law to prevent such decisions as that in the Taff Vale case. An Employer's Liability Act of 1880 had given British laborers in dangerous trades substantially the same protection which those of Prussia had enjoyed for more than forty years. Its provisions were extended in 1897, 1900, and 1901, to include more than half of the laborers of the country, employers being obliged to insure them against accidents.

A really comprehensive program was begun with the passage of the Workmen's Compensation Act of 1906. Instead of dealing with classes of workers by name, it established injury insurance for all except manual laborers and those earning over £250 a year. Some 13,000,000 workers were involved,

[1] The circumstances which led Bismarck to espouse this program have been discussed in the final section of Chapter VI above. See Chapter IX on "German Industry," for a brief discussion of its place in the German economic order.

instead of about 7,000,000 under the earlier legislation. The employer was required to pay a maximum of £1 a week during time out for injury, medical and funeral expenses in case of death, and benefits for dependents, if any. While this was not compulsory state insurance, in the German sense, it accomplished much the same purpose, since employers tended to shift the risk to insurance companies.

Earlier schemes of relief for the aged were superseded or systematized by the passage of the Old-Age Pensions Act of 1908. An amendment of the next year had the effect of abolishing the older poor relief. The newer legislation was a pension scheme, pure and simple, for British subjects of certain ages and income categories who had been residents twelve years and citizens for twenty. Unlike the German system, the payments were provided for entirely from public funds, no contributions from employers and employees being required.[1] In this respect the programs of Denmark and the Australasian countries were followed. Sickness and unemployment insurance were added by the National Insurance Act of 1911. Medical and maternity benefits and care of an advanced and systematic type were features.

The provision for unemployment insurance was a distinct step in advance of the German program. Labor exchanges had been set up in 1909, the year of the abolition of the old poor-relief mechanism. Germany was handling this efficiently, but had always balked at comprehensive unemployment insurance legislation. Realizing the possible scope of the plan when it should develop, two groups, the building and engineering trades, were singled out for a beginning. Contributions of employers, employees, and the State built up a fund for each employee, who drew against it when out of work through no misconduct or voluntary act of his own. During the course of the World War, over three millions of workers were withdrawn from production. More than half

[1] The Widows, Orphans and Old-Age Contributory Pensions Act of 1925 extended the national insurance scheme, and put old-age pensions, so far as the working population is concerned, upon a contributory basis.

of these were replaced by women, about 70,000 came in from outside, including the Dominions, some 700,000 were released from military service, and there was still a deficit of more than three quarters of a million. Under these circumstances, conscription was established in 1916, with a special view to regulating the assignment of personnel to military or economic service according to the supreme needs of the Government.

Strikes assumed enormous proportions after the war, it being estimated that 85,800,000 working days were thus lost in the single year 1921. Following the onset of the industrial crisis at the end of 1920, vast numbers found themselves out of employment. The figure rose to more than two and a half million during the summer of 1921, and stayed above a million for over two years. Added to the huge burden of war pensions and allowances, the weight of this post-war unemployment situation has brought into sharp relief certain basic issues concerning the assumption of such risks by the State: (*a*) Can the State bear the financial burden? (*b*) If so, is the money to be raised by taxation, or at least in part from some arrangement whereby each industry assumes special responsibility for its own unemployment? (*c*) Can any system of unemployment allowances be devised which will be adequate and yet avoid demoralizing the worker? (*d*) Granting that all these problems can be solved by public unemployment insurance should the assistance take the form of payments without work, or of arranging a schedule of public works to be pressed whenever times are dull, or some such modification to a system of "doles"?

Various extensions in the National Insurance Act of 1911 brought the number who came under the unemployment provisions up to about 12,000,000 by the time the crisis of 1920 set in. Within six years after the armistice, the total cost of unemployment insurance from public and private sources was well over £350,000,000. Of course, the situation of this period was abnormal. French writers repeatedly charged that British workmen spent a great deal of time

across the Channel, living in comparative luxury on either doles or strike benefits at a time when the franc was weak and the cost of living low in France. How can Governments fix wages and give compensation for unemployment in industries over which they have no control or interfere in management without fundamentally altering the whole fabric of private enterprise? No system of government insurance can be any stronger than the Government concerned, or any safer than the investments of the funds permitted by law. So far this has been a German rather than a British problem, since Germany lost the war and inflation went almost infinitely farther there. Inflation and changes in general price levels both affect any such system, however. If the cost of living rises to a point where the rates of payment contemplated when the funds were accumulated will buy only half as much, the system is ineffective to that extent, and it is unsafe in proportion to the probability that this will occur. There is no getting around the fact that such funds, in so far as they are raised by taxation, are subjected to the interested political influence of those who do not pay as well as of those who do. The whole theory of business enterprise is affected by this separation of the accumulation of wealth from the power to decide about its distribution. We are already a long way from *laissez-faire*, and not very certain as yet whither we are bound.

The general strike declared by the Trade Unions Council of Great Britain in May, 1926, to support the cause of the striking miners, brought forward some fundamental issues. This move was supported by funds from abroad as well as at home. Though the Government tried to avoid all other questions save the one of whether the tying-up of the whole economic system by a fraction of the population was or was not revolution,[1] there were others quite visible in the back-

[1] The "Triple Alliance," organized in 1914, joined the Miners' Federation, the Transport Workers' Federation, and the National Union of Railwaymen. Such a combination of specially trained people in key positions may obviously threaten, and might conceivably bring about a stoppage of the national economic machine, which would affect millions of people not parties to the dispute.

ground, which did not disappear when a compromise was effected. The miners' strike continued for months, causing enormous loss to various industries. Under world conditions at the time, it appeared that the coal mines could not pay what was generally conceded to be a decent wage to all the workmen who habitually followed that trade without running at a loss. Many people asserted that this need not be the case if the mines were nationalized. Here is a typical dilemma for which our generation has no positive solution. How is a Government to ensure that a vast industry will pay a decent wage to a given number of people, either through regulation or direct management? If it cannot be done, how is the difference to be made up? Who is to decide whether the condition is temporary or permanent? If a wage is fixed which the poorer units cannot pay and they go out of business, what is to be done for the workers who are trained for one thing and obliged to turn to another — especially at a time when there is little to turn to? The older *laissez-faire* economist would have said unhesitatingly that the State must keep its hands off, letting prices and wages find levels conceived as "normal" through competition. But both employers and employees are organized on a vast scale, and such a struggle, even if peaceful, might be intolerable to the consumers and paralyzing to the nation in general. On the other hand, the socialist would say with equal conviction that the State must step in completely and end this destructive competition. The issue as to whether private or public management would prove the more efficient bristles with practical and theoretical problems. If the State is to buy the properties, a great deal depends upon the price, and if they are merely leased, the conditions of the arrangement with the owners, including the guarantees given, are all important. To suggest only one difficulty in evaluating a plant, either for purchase or for the apportionment of revenues, an arbitrary decision to abandon it would make it worth something like the value of its equipment elsewhere, less the cost of moving; whereas

a totally different figure might result from calculating the chance that conditions may improve and make it profitable to use the machinery on the ground. A rational reorganization to get coal from the best-paying seams at the lowest possible cost would presumably increase the quantity that the market would absorb, but there is no certainty that all of the older mining personnel could be employed in such a scheme.

One factor eternally escapes formal regulation, and that is population itself. If an industrial nation like Great Britain suddenly finds herself with several million more people than the world demand for manufactured goods will provide with work, and hence with food, what is to be done with the surplus? To support these workers in idleness obviously puts an additional burden upon the fraction of the productive machinery which is still turning. Even if we say that the Dominions are not crowded, that does not mean that farming countries can suddenly absorb vast numbers of miners or factory workers. War and inflation are the enemies of economic stability, but the dislocations they produce are largely those of other times concentrated and magnified.

INDUSTRY AND EMPIRE

While this opens a subject which will be touched again in a chapter on commerce, a word must be put down as a reminder of Great Britain's position at the center of a world-wide empire, and of her preëminence in world trade. These facts serve to explain a land system at home with which a more self-contained nation would starve. The British Empire includes about a fifth of the earth's land surface and roughly a quarter of its population. In this medley of some four hundred millions is scattered a handful of about ten millions of native stock from the British Isles beyond their borders, and the surface of the United Kingdom is less than a thousandth part of the whole. The great units of Canada, South Africa, India, and Australasia absorb about forty per

cent of the exports of the United Kingdom, and furnish around thirty per cent of the imports.

It is the character of this trade, rather than its volume, which draws our attention in connection with industry. Cereals and meats are imported from Canada and Australia, and also wool, hides, and leather in large quantities from the latter. Cotton comes from India and Egypt, as well as from the United States. In and out of her possessions, Great Britain has a tremendous grip on the world sources of rubber and petroleum. Her initial advantage in supplies of coal and iron has never been entirely lost, though her mines are getting deep, many of the coal seams are thin, and competition is becoming constantly more serious. On the one hand, she is the great world market for foodstuffs and raw materials, on the other typically an exporter of manufactures, which form more than three quarters of the total. Cotton goods alone average around twenty-two per cent. Other important items are iron and steel, woolens, construction materials, chemicals, and nautical supplies. In general, the Empire is sparsely populated and agricultural, the home land densely populated and industrial.

In such a situation, shipbuilding takes on an importance even disproportionate to the actual profits it yields directly. It is inextricably bound up with a system of naval construction, underlying the peculiar need of a nation which cannot even temporarily feed its people or industries on home produce, to keep its lines of communication open in a world where wars still occasionally break out. Great Britain is not the only country with a chronic excess of imports over exports, but in her particular case this represents the return on investments abroad and the profits from carrying goods for others. The rise of other maritime powers, such as Germany and the United States, affected Great Britain's commercial position in the world, and any such change is immediately reflected in the industrial system. For instance, American goods are very close to the Canadian market and peculiarly adapted to it. Canada is practically independent.

It is easy for American firms to set up what might be called sub-factories there, inside the Empire, in combination with Canadian capital and management.

The fluidity of modern industrial capital constantly changes the economic structure of the Empire in another way. British capitalists set up cotton mills in India, tempted by the saving in transport costs, the cheapness of labor, and the freedom from labor legislation. In time the product of these mills competes noticeably with that of English mills, and tends to throw British labor out of employment in periods when the market is narrow. For practical as well as humanitarian reasons, British labor leaders take an interest in improving conditions and raising wages in India through organization and legislation. Similarly, American labor groups have paid more and more attention to Latin-American conditions, particularly in Mexico. Another effect of such competition is increasing specialization — a constantly changing division of the processes and markets. Short-fiber Indian cotton and the Oriental market for cheap, coarse goods go together. British skilled labor and experience concentrate more and more on the finer grades. This is one reason why the number of spindles is not a particularly happy measure of the importance of the cotton textile industry. There is no unit for making strict comparisons between goods made from different grades and kinds of a raw material like cotton, under different conditions and for different markets.

There are limits to such specialization, but they are extremely hard to fix. In fact, they are constantly shifting, and merely of a certain arbitrary, practical value for the time being. At the outset, the factory methods were especially adapted to the coarser goods. It was a long time before Great Britain learned to compete successfully with the hand-made calicoes of the East. Having finally destroyed that industry, she faced a rising competition in the grades which had first established her supremacy. As the Oriental worker becomes more skilled and improves his standard of living, the mills in that part of the world can take on new

grades of goods which are not too difficult to manufacture near to the market as it exists at the time. In the meantime, the West takes up new things like artificial silk, and always tends to have a monopoly of certain products used in industry, such as the upholstering fabrics and enameled or rubberized cloths employed in automobile manufacturing.

The "downfall" or "decline" of Europe has been predicted in various terms and forms by writers in our century, particularly since 1914, and Great Britain is an obvious central target for such gloomy prophecies. Every age is "modern" until it is past, each successive "file of time" being the foremost by definition while it lasts. Europe was apparently checked in 1914 in the midst of a vast upward swing in population and economic activity. Ten years later her trade was still far below the pre-war volume and her numbers about exactly on a level with those of 1913, while both America and Asia had swept ahead. This does not necessarily mean that either Great Britain or Europe as a whole has reached the peak of economic development. Surely at least Great Britain, Germany, and Italy are densely enough populated relative to their resources that a halt or slackening need not be regarded as a disaster. Europe has never worked out more than a fraction of the economic destiny which might be hers, and she may yet do so. Her resources are roughly comparable to those of the United States, but the territorial division of labor has remained extremely awkward and crude, due in large measure to the hampering restrictions of national systems. If these could be rationalized, enormous new possibilities would be unlocked. That Great Britain would be among the first to profit is indicated by the fact that, as a free-trade country, she has much to gain and very little to lose. There is no doubt that the American mass production which impresses Europeans so much is largely founded on a vast marketing area without tariff boundaries or hampering frontier restrictions.

It is too early to say that Europe is decadent, or that Great Britain has reached anything like the peak of her

industrial production. These nations are each others' best potential markets, and often actual ones. Small or poorly equipped plants waste the energies of highly skilled workmen where better machinery would be possible if the market were not divided up into fragments. Possessions outside of Europe are so organized, in many cases, as to become merely fragments of the above fragments, and do not contribute what they might to the prosperity of the whole Continent. The waste is apparent even without counting the direct cost of rivalry in the form of economic and military preparations for possible wars. Many Europeans are keenly aware of these handicaps, and have a lively sense of what might be accomplished if they could be removed or reduced. In this frame of mind various conferences called largely to consider specific problems since the war have discussed far more general reforms. The French industrialist and ex-Minister Louis Loucheur aptly called the pre-war malady of Europe "industrial disorganization," and introduced a resolution in the 1925 meeting of the Assembly of the League of Nations calling for an international conference to study the post-war phase of it in detail. This led to much preliminary work during 1926, and finally to an international economic conference at Geneva in 1927. It can be nothing more than an initial step, but it would be rash to fix bounds to the industrial future of any European country until a thorough attempt has been made to unlock and organize the real possibilities of the Continent.

SUGGESTIONS FOR FURTHER READING

(See also references given at end of Chapter IV)

*Armitage-Smith, G.: *The Free Trade Movement and its Results*, chaps. v–ix.
*Ashley, W. J.: *British Industries.*
Baines, E.: *History of the Cotton Manufacture in Great Britain.*
Bowley, A. L.: *Wages in the United Kingdom in the Nineteenth Century.*
——— *Prices and Wages in the United Kingdom, 1914–1920.*
Bready, J. W.: *Lord Shaftesbury and Social-Industrial Progress.*
*Chapman, S. J.: *The Lancashire Cotton Industry.*
*Clapham, J. H.: *The Woollen and Worsted Industries.*

Clapham, J. H.: *An Economic History of Modern Britain*, chaps. IX, X, XII, XIV.
Cleveland-Stevens, E. C.: *English Railways: their Development, and their Relation to the State.*
Cole, G. D. H.: *A Short History of the British Working-Class Movement.* 2 vols.
*Cunningham, W.: *The Rise and Decline of the Free Trade Movement.*
Galloway, R. L.: *A History of Coal Mining in Great Britain.*
Gibbins, H. de B.: *Industry in England*, chaps. XXIII, XXIV, XXVI.
Heaton, H.: *The Yorkshire Woollen and Worsted Industries.*
Hirst, F. W.: *From Adam Smith to Philip Snowden: A History of Free Trade in Great Britain.*
Hutchins, B. L., and Harrison, A.: *A History of Factory Legislation.*
Jackman, W. T.: *The Development of Transportation in Modern England.* 2 vols.
*Jeans, J. S.: *The Iron Trade of Great Britain.*
Jevons, H. S.: *The British Coal Trade.*
*Jevons, W. S.: *The Coal Question.* (New edition, revised by A. W. Flux.)
*Knowles, L. C. A.: *The Industrial and Commercial Revolutions in Great Britain during the Nineteenth Century.*
——— *The Economic Development of the British Overseas Empire.*
*Lipson, E.: *The History of the Woollen and Worsted Industries.*
Lloyd, G. I. H.: *The Cutlery Trades.*
*Marshall, Alfred: *Industry and Trade*, book I, chaps. III, IV, V.
*Meredith, H. O.: *Outlines of the Economic History of England, passim.* (This is the best of the smaller manuals.)
*Ogg, F. A., and Sharp, W. R.: *Economic Development of Modern Europe*, chap. XII; and all of part V (a summary of the war and post-war periods, with elaborate bibliographies).
*Porter, G. R.: *The Progress of the Nation* (new edition, revised by F. W. Hirst), chaps. XII–XXV.
Pratt, E. A.: *A History of Inland Transport and Communication in England.*
Redford, A.: *Labour Migration in England, 1880–1850.*
*Slater, G.: *The Making of Modern England*, chaps. XI, XVI, XVII, XX.
*Usher, A. P.: *The Industrial History of England*, chaps. XII, XIII.
Webb, Sidney and Beatrice: *The History of Trade-Unionism.*

CHAPTER IX

GROWTH OF GERMAN INDUSTRY SINCE 1800

In the early nineteenth century innumerable restrictions so interfered with the progress of German industry that even in France, preëminently agricultural, industry reached a more advanced development than in Germany. This can be accounted for in part by the slow disappearance of the gild system in different parts of the country. In the western lands the liberal French code helped to weaken the gilds. Their monopolistic character was further undermined, between 1808 and 1811, by the licensing of craftsmen. Even so, the gilds continued for some time to exert considerable influence in a few branches of industry, particularly outside of Prussia. This can easily be explained if we remember that the mechanical inventions were but slowly introduced in many parts of the country. In some branches of industry, gild control had been disrupted even as early as the second decade of the century. Legislation therefore merely hastened its destruction. The persistent efforts of the gildsmen during the first half of the century to maintain their position of privilege showed how desperate their condition had become. Another serious obstacle to economic progress was removed in 1807 with the elimination of a large number of internal duties.

The reason for this slow development of German industry is in part to be found in the geographical position of the country. The devastating effects of wars had made the accumulation of capital difficult. Inadequate means of communication, deficient banking facilities, and the lack of a uniform medium of exchange greatly retarded the transition from handicraft to machine production. Not until 1833, after the formation of the *Zollverein*, were currency reforms initiated, and roads that could withstand heavy traffic extensively constructed. In 1840, when England had in

operation a railway system comprising 800 miles, Germany had completed less than 400 miles. Again, agriculture absorbed a very large percentage of the total population during fully three quarters of the century. In Prussia alone, it amounted to 73 per cent in 1804. As late as 1871 it was still 67.5 per cent. For Germany as a whole the percentage was slightly less, although, in 1871, 63.9 per cent of the population was still classed as rural. No one factor was of greater importance in retarding industrial progress previous to 1871 than the lack of political unity. The formation of the Empire was therefore of great importance in the evolution of industrial Germany.

Summarizing the course of events during the first half of the nineteenth century, Alfred Marshall writes:

"Misfortune followed Germany till about 1850. A few of her industries, especially in Saxony and the Rhineland, attained some success; but speaking generally she remained poor relatively to France as well as England, and backward relatively to both of them as well as to Belgium and Switzerland. But when one looks below the surface, one can see that the true German spirit was merely overlaid by incessant strife. It never died: its revival was largely due to a revolt against the slaughter of Germans by Germans under Frederick II and under Napoleon. Driven in on themselves by political failures their thoughts founded "an empire in the air," that is, an empire in philosophy, literature, and music. This empire in the air was not Prussian. It was German. And the ideal empire was the foundation of the material." [1]

INDUSTRIAL PROGRESS AND THE BEGINNINGS OF CAPITALISM

Large scale production on an extensive scale did not begin in Germany until the middle of the nineteenth century — certainly, not before 1840 — although a few examples of enterprises conducted on a capitalistic basis are found earlier. There were crude beginnings of the factory system in the eighteenth century, but industrial activity was limited and the influence of factory production almost negligible. During the Napoleonic wars the Continental Blockade

[1] *Industry and Trade*, p. 123.

did much to stimulate industrial growth. A number of beet-sugar establishments and spinning mills, operated on the factory system, were at that time organized. The heavy demands of the Napoleonic armies for textiles likewise had a stimulating effect upon cloth manufacturing, especially in Saxony. The blockade, moreover, extended the territory in which German producers could dispose of their goods. But the industrial organization of the country as a whole rested upon an exceedingly weak foundation. As soon as the blockade was lifted and English producers were again able to market their surplus goods on the Continent, a severe reaction set in, and the German manufacturer lost heavily, as did those of other countries.

The year 1821 marked an event of some importance in the history of German industry — the establishment by the Prussian Government of the *Gewerbe Institut* (Trades Institute). It did much to spread information regarding the newer technical processes and was also responsible for the establishment of several factories. But these improvements were only local in character and at first exerted relatively little influence.

The transformation of the political and economic life of Germany in recent years constitutes one of the most remarkable chapters in modern industrial history. In the words of W. H. Dawson:

"... The last fifty years witnessed the decay and end of the old "subjective" epoch of self-absorption, of concentrated, self-centered national life, and the opening and the triumph of a new "objective" era of external effort, beginning with foreign-trade ambitions and culminating in ambitious foreign-politics. This more than anything else is the distinguishing mark of the Germany with which the world to-day has to do — the abandonment of the old national forms of life and the resolute pursuit of world-aims and a world-career, with the determination, if not to win absolute primacy among the nations and empires of modern civilisation, at least to dispute such primacy with any existing or potential claimant."[1]

[1] *The Evolution of Modern Germany*, pp. 1–2.

This new epoch in the economic life of Germany was marked by a rapid growth in the population of industrial centers, as in the case of England after the Industrial Revolution. From only 8 cities with a population in excess of 100,000 in 1871, the number increased ten years later to 14; by 1905 it reached 41. Approximately 63.9 per cent of the population in 1871 was engaged in agriculture and related industries; by 1890 it was 57.5 per cent; twenty years later about 40 per cent. The rapid industrialization of modern Germany is likewise indicated by the increase in the number of persons engaged in the more important branches of industry for the years 1875, 1882, and 1895:[1]

Trades and Industries	1875	1882	1895
Building	Unknown	947,000	1,354,000
Cotton	291,000	211,000	255,000
Woolen and worsted	194,000	197,000	262,000
Flax and linen	200,000	138,000	106,000
Silk	77,000	91,000	70,000
Mining	283,000	321,000	430,000
Iron and steel	732,000	808,000	1,115,000
Leather	490,000	542,000	555,000
Paper	46,000	58,000	85,000
Glass	36,000	39,000	58,000
Brick, tile, and pottery	145,000	227,000	307,000
Chemical	41,000	57,000	97,000

It will be seen from the foregoing table that particularly heavy increases were made in the building trades, in mining, in the iron and steel industries, in brick, tile, and pottery-making, and finally in the chemical industries. Only in the case of flax, linen, and silk industries is an actual decline to be observed since 1875, although employment in the cotton industry in the late seventies and early eighties decreased seriously.

The ability of German industrialists to adopt methods which had already gained a high degree of development in Great Britain was largely responsible for the success which

[1] *The Evolution of Modern Germany*, p. 44.

they in turn attained. That Germany gained distinct advantages from applying an already proved industrial method without suffering the consequences of continued experimentation cannot be denied. A considerable quantity of the goods produced in Germany was at first consumed by her steadily growing population. A general rise in the level of wages, combined with lower prices resulting from production on a large scale, gave the German manufacturer greater opportunities of disposing of his wares than he had earlier possessed. At the same time the number of persons solely dependent upon industrial earnings steadily increased.

After the establishment of the Empire, German industry received encouragement through steps taken by the Government to organize and develop the industrial resources of the country. This policy was manifested in every phase of national economic life. In this respect the industrial history of Germany differed considerably from that of Great Britain, where a policy of *laissez-faire* was the recognized one after 1850. German industry derived many direct and indirect benefits from the protective tariff and from the painstaking care with which the Government endeavored to direct the system of education into the channels that would yield the greatest advantage to industrial and commercial effort. Willingness to apply the best intellect of the country to industry could not fail to influence beneficially her economic growth. Mention should also be made of the influence of the army upon business organization. The period of involuntary military service disciplined men and trained them to the advantages of coöperation, qualities which in themselves later proved highly important in developing industrial and trade combinations.

As in agriculture much earlier, the introduction of improvements in machinery became a vital factor in the development of industry; and finally after the middle of the century the accumulation of capital began to influence economic organization. At first this was slow, but it gathered force.

THE TEXTILE INDUSTRIES

Spinning and weaving, particularly of linen materials, had been for centuries an important agricultural by-industry. The peasant grew flax, spun his own yarn, did his own weaving, and in some cases grew madder for dyeing purposes. The weaving of linen was almost exclusively a by-industry, a small percentage of the looms being operated by weavers with no other occupation. Thus in Prussia, out of a total of about 250,000 linen looms in 1831, approximately 216,000 were used by peasants whose main activity was agriculture. In the spinning of linen yarn conditions were much the same, although in eastern Germany a large number of spinners were exclusively so engaged. The coming of the railway, which revolutionized so many industries, only slightly affected the production of linen.

This industry suffered severely after 1815 through the competition of cotton textiles and the persistence with which it followed the older methods of production. A sharp decline in the production of flax was an added cause for distress. Although the *Zollverein* gave some encouragement, the position of the industry was most insecure, as is shown by the steady decline of linen exports and the precarious condition of the Silesian linen weavers in the forties. The temporary elimination of the supply of American cotton during the Civil War in the United States stimulated the linen industry to renewed life, only to lose again in the competitive struggle which followed. For at least the first four decades of the century, spinning persisted as an important handicraft. After 1840 the use of power and the establishment of spinning mills became extensive. The quarter-century following 1882 saw the almost complete disappearance of handspun linen yarns. In linen weaving conditions were essentially different, the handicraftsman persistently maintaining his position. As late as 1882, when modern methods of spinning had become quite prevalent, there was little indication of any fundamental change in linen weaving. But the revolution eventually came. Combined with for-

eign competition, it caused a drop in prices which resulted in great distress among handicraftsmen, who still endeavored to compete with the machine-made linen textiles. Machinery was extensively introduced after 1900, but the German linen industry has made little progress since the opening of the present century. Importation of foreign linen yarn and textiles has been heavy in recent years, but the export trade has been relatively unimportant.

In the silk industry progress was made even previous to 1840, but the total consumption of the raw material amounted at that time to only 600,000 pounds, as against 1,900,000 pounds thirty years later. This rapid advance can be accounted for largely by the fact that in the production of silk much depends upon the dyeing and finishing processes. Even before 1870 German scientists had developed these processes to a high point of efficiency. Moreover, the raw material was largely imported, the domestic output constituting but a small part of the total consumed by German silk producers. Silk spinning had been early organized on the factory principle, but as late as 1871 weaving was still carried on extensively in households.

In the manufacture of woolen textiles the number of independent master weavers who did not combine agriculture with a handicraft was considerable. Only approximately one fourth of the woolen looms in Prussia in 1831 were operated by peasants as a by-industry. So far, however, the power loom and the factory system had contributed little to its growth. The use of modern methods of production became more important in the sixties, but weaving was still a domestic industry as late as 1871. A moderate increase in the output of raw wool occurred in the years preceding the Franco-Prussian War; this was followed by a slow but continuous decline in its relative importance. The price of foreign wool dropped in the meantime, and the manufacturer could afford to import his raw material in large quantities. In the spinning of woolen yarn concentration and the use of power had gradually supplanted the

independent handicraft and the domestic systems. Within twenty-five years after the close of the Franco-Prussian War, spinning was almost completely controlled by the machine. In the weaving of the textiles, however, as late as 1895 modern methods of production had by no means completely displaced the home worker. The factory system made continuous gains in the years that followed. Even in recent times the woolen manufacturing industry has had a fairly wide distribution, although there has been heavy concentration in Prussia, in the provinces of the Rhineland and in Brandenburg, in Silesia, in Saxony, and in Alsace-Lorraine. Raw wool, semi-manufactured, and manufactured wool combined have also been of importance in the export trade. In the year preceding the World War, woolen goods held fifth place in the list of exports, surpassed only by machinery, ironware, coal, and cotton goods.

In the cotton and silk industries conditions were very different. Difficulties involved in obtaining raw materials gave the middleman an opportunity from the beginning practically to control both industries. As a cotton manufacturing country, Germany entered the field much later than Great Britain. Once a foothold was gained, progress was exceedingly rapid. Between 1836 and 1840 the annual consumption of cotton already amounted to 18,500,000 pounds, increasing to more than 56,000,000 pounds between 1851 and 1855. In the corresponding years of the next decade (1861–65) it exceeded 97,000,000 pounds. Another indication of the growth of prosperity in the cotton industry is found in the increase in the amount of domestic yarn used by the German cotton weavers. During the early decades of the nineteenth century the cotton industry depended largely upon English yarn. By 1850 this dependence had been greatly reduced, with the total of domestic yarn approximating the amount imported. A decade later homespun yarn exceeded the imported supply. By 1871 the former amounted to nearly 2,000,000 cwt., whereas the foreign yarn imported was about 400,000 cwt. There

was also a steady increase between 1852 and 1867 in the number of spindles and in the output per spindle.

But the introduction of cotton textile machinery was slow, especially in the case of weaving. As late as the middle of the nineteenth century less than five per cent of the total number of cotton looms were power driven. From 1850 to 1871 the latter increased considerably, but the hand loom was still preëminent. Spinning was much earlier influenced by the introduction of machinery, as we have seen. With the growth of the industry it was the mill rather than the handicraftsman that supplied the weaver with yarn; and it was in this branch that the greatest advance was made previous to 1871.

Much of the increase in the output of the German textile industry occurred after the Franco-Prussian War, when the mills of Alsace-Lorraine were added to those of Germany. This territorial acquisition particularly affected the cotton industry. Between 1854 and 1856 German manufacturers consumed on an average 37,500 metric tons of raw cotton. The relative unimportance of the cotton textile industry at this period is to be accounted for by the fact that, as material for clothing, cotton was just beginning to come into popular use. The annual consumption of cotton increased to about 127,500 metric tons in the years 1875 to 1877. This increase, however remarkable, was insignificant in comparison with that which occurred after the opening of the twentieth century, when an annual consumption of more than 370,000 metric tons was recorded. German knitting machines and black dyes captured the market for cotton knit goods, which were exported in quantity even to England.

DEVELOPMENT OF COAL MINING

German coal deposits were only slightly developed in the eighteenth century, charcoal constituting the most important fuel used for industrial purposes. Some activity in the extraction of coal in western Germany, notably in the Ruhr

Basin, occurred early in the nineteenth century, but lack of capital prevented mining on a large scale. It is significant, therefore, that, beginning in the thirties, a few large mining companies initiated projects for the exploitation of the coal resources of the Ruhr, and that by the middle of the century these companies controlled the greater part of the output of this region. These efforts to increase production, while significant, did not assume proportions comparable with the success attained by Great Britain. The relatively slow development of coal mining can be accounted for by the backward state of the iron and metallurgical industries, the inadequacy of the means of transportation, and the scarcity of capital. England, endowed with natural and artificial waterways, was able to carry on an active coal trade as soon as the demands of industry warranted an extension of coal mining. In Germany, on the other hand, it was not until after 1845 that means of communication were sufficiently developed (excepting along the rivers, where steamboats began to play an important part as early as the thirties) to exert an influence upon the economic organization of the country. Besides, artificial waterways were still almost totally lacking. As late as 1846 the output of the coal mines of Prussia amounted to only slightly in excess of 3,000,000 tons. Moreover, practically all of the important German coal deposits were located in Prussia or the Prussian provinces, including those of the Ruhr, the Roer, the Saar, and Silesia. By 1852 Prussia produced about 5,000,000 metric tons; less than fifteen years later her output had increased to18,500,000 tons; by 1871 to 25,950,000.[1]

The efforts of industrial enterprisers were soon reflected in the steadily growing output of the basic commodities and the establishment of factories operating on a large scale. An expanding industrial organization and increased use of railways and steamships after 1850 meant a more rapid exploitation of coal deposits. So far coal mining was still

[1] The total production for Germany (including Luxemburg) in 1871 amounted to 29,298,000 metric tons.

carried on in the same fields which had provided the nation with the scanty supplies demanded early in the century. The last quarter of the century saw an expansion of coal mining in these districts, as well as energetic efforts to obtain a greater output in Silesia, where coal mining had only recently been developed extensively. From 1875 to 1900 the production of coal increased from 37,436,400 to 109,290,200 metric tons, not including lignite (brown coal), of which about 40,498,000 metric tons were mined in 1900. Lignite was obtained largely from mines near the rivers Oder, Saale, Weser, and Elbe. In the year previous to the outbreak of the World War, Germany's production of anthracite coal had increased to 190,109,400 metric tons; in addition 87,233,100 metric tons of lignite were produced. The most astonishing phase of the history of coal production in Germany was the rapidity with which the coal resources of the nation were exploited after 1900.[1]

Only the ease and cheapness of transportation permitted of the importation of English coal in 1913 by localities into which it was difficult and expensive to ship the output of German mines. A comparison of the production of the coal mines of Germany with that of British mines indicates a relatively more rapid increase in the former. Although a fairly steady increase in French coal mining is also to be observed, it was negligible after 1900 in comparison with the progress made in Germany and Great Britain.

Approximately one half of the output of German coal in 1913 came from the mines of the Ruhr region, the remainder chiefly from Silesia and the Saar, with a relatively small contribution from Saxony. The 1910–19 averages given in the table above are fair as to lignite, most of the supply of

[1] PRODUCTION OF COAL

(Ten-year averages)

DECADE	METRIC TONS Anthracite	METRIC TONS Lignite
1880–1889	57,039,660	14,872,070
1890–1899	81,978,310	25,124,230
1900–1909	126,081,810	53,031,010
1910–1919	158,470,970	86,296,160

which Germany kept under the peace treaty. Note, however, that the figure of 158,470,970 metric tons of coal is far short of that for the single year 1913 (190,109,400 metric tons). Although she exported about $60,000,000 worth of coal more than she imported in 1913, she has had to import considerable quantities since the war. Besides the coal deliveries to France on reparations, she had lost the Saar mines entirely, and the most highly developed part of Upper Silesia was finally awarded to Poland. Moreover, the Rhenish-Westphalian region, of which the heart is the Ruhr, had been developed in connection with the iron mines of Lorraine, which went to France in 1918. Deprived of some 60,000,000 tons of coal a year, or nearly a third of her pre-war output, and left with less than two thirds of the amount of her pre-war consumption, Germany's industrial position seemed completely changed at the very time when heavy reparation payments were being demanded. In the Ruhr region, however, she still retained the great, concentrated European

source of coking coal, together with a system of furnaces and transportation so marvelously developed as to be able practically to decree profits or losses to the holders of the Lorraine iron ores. It was the seizure of this district in January, 1923, which practically separated French policies from those of the greater war-time allies, and in the end paved the way to the economic rehabilitation of Germany. The Ruhr was too important for one or two powers to handle against the will of its owners and without the coöperation or sympathy of the other European nations.

IRON AND STEEL

The Rhenish-Westphalian industrial region alluded to above has few rivals. In the degree of its concentrated, intricate efficiency, it is perhaps absolutely unique. This is all the more commanding to the imagination when we reflect that no longer ago than 1865, Germany was quite disunited politically, and, in spite of her fiscal union or *Zollverein*, her industrial system was on the whole rather primitive. Iron-making had been carried on as a peasant side industry during the eighteenth and early nineteenth centuries, burning charcoal and using equipment which may fairly be called crude. The production of iron ore soon felt the effects of the fiscal union, trebling between 1848 and 1857.[1] From 1852 to 1875 the iron furnaces of Prussia alone increased their output from 160,000 to 1,395,000 metric tons. The production for Germany as a whole showed a similar growth, rising from 685,000 metric tons in 1862 to 2,000,000 in 1875.

In the engineering industries relatively little progress occurred previous to 1850. A few sporadic efforts were made early in the century to establish machine works in the Rhine provinces and around Berlin. Whatever success was attained was largely due to the policy of the Prussian Government and the encouragement received from British industrialists and workmen who established themselves in Ger-

[1] From 13,874,509 cwt. to 39,241,087.

many. Some headway was made in the twenty years before 1870, but the machine works of Germany did not begin to produce on a large scale until after the Franco-Prussian War. The transition from handicraft production was made at first almost entirely with imported English, French, and Belgian machinery. Solingen was the center of a fairly important cutlery industry even in the early part of the century. The craftsmen generally worked under the putting-out system, which was only gradually displaced after 1850.

Germany's military strength, as proved in 1866 and 1870, was the expression of a slow growth of which the real significance was to become more apparent in the domain of economics later. The way had been paved in part by an efficient educational system. In building up the *Zollverein* and getting rid of racially conglomerate Austria, the Germans had builded even better than they knew, at a period when free-trade theories were nearer their decadence, and nationalism more of a force in Europe, than most people suspected. Their sobriety and discipline, the almost reverential attitude toward science in their higher schools, and a certain habit of state interference inherited from Prussia, were all particularly useful in the situation which gave birth to the Empire.

Some elements in this situation must be regarded as fortuitous. France was weak in a military way after an unfortunate adventure in Mexico and a long series of campaigns in North Africa which had placed undue emphasis upon an open style of fighting. European conditions were quite different, and Germany was familiar with them from a recent war with Austria. With typical German thoroughness, methodical study and preparation had preceded action. The Americans had just fought a vast civil war, beginning with many ideas brought by General Kearny and other observers from Algeria, but ending with the plodding siege methods of a Grant. Both sides had nearly lost repeatedly because of faulty knowledge of the terrain. The Germans turned out to have the best maps of eastern France, the best

tactics and strategy for that kind of country, and the best materials known at the time. When it came to making peace terms, they demanded all of Alsace and the part of Lorraine then industrially developed and known to be rich in minerals, besides a billion-dollar indemnity — a large sum in those days.

Both geography and a coincidence of fortunate circumstances were kind to the Germans. The new provinces, seized nearly two centuries earlier from the older German or "Holy Roman" Empire, were largely bilingual and not difficult to assimilate. Lorraine's immense deposits of phosphorous iron ore were just becoming available through the development of open-hearth smelting. German industrialists bought the Siemens process in 1881. The Rhine region was perfectly located to bring these and other ores together with half the known coal deposits of Europe. In many ways Germany's backwardness in 1870 was an advantage, because her system of industrial and transport nuclei, once established, was remarkably free from obsolete organization and machinery. Her commercial situation, in the heart of the Continent, was practically ideal; her statesmen and economists were not prejudiced against state interference or tariffs designed to keep the country self-sufficient. Nor must we forget her growing "intellectual proletariat." It has been estimated that there were five thousand university-trained chemists before the World War, and that the services of one of these doctors of philosophy could be secured for about seventy-five dollars a month during the earlier part of his career, when he was, nevertheless, perfectly competent.

Modern Germany is often dated from 1881, when the English Siemens process was purchased. Previous to 1871 the output of iron ore was extremely small compared with that of Great Britain, though the production of all the German lands was slightly superior to that of France. The development of the Siemens-Martin or basic process, especially including the improvements added in England in

the seventies, put an entirely new evaluation upon the phosphorous ores of Lorraine and Luxemburg, and raised up the first great European rival of Great Britain in the iron business. Early beginnings of a transformation under the German Empire were perhaps especially exposed to inflation because of the French war indemnity, and the depression of 1877 was severely felt. Then began a gradual increase in tariff rates, aided by the growing parliamentary influence of certain "infant industries" — notably iron and steel. Behind the protecting wall the complex of favorable geographic, scientific, and social factors produced an almost uninterrupted expansion of the output of iron ore, pig iron, and steel.[1]

Despite the rapid increase in production, imports began after 1887, and about 22 millions of tons of ore came in during 1913 (from Luxemburg, Sweden, France, Spain, etc.). If we include Luxemburg, which was largely integrated into the German economic orbit up to the end of the war, the pig-iron output increased from 2.7 millions of metric tons in 1880 to over 13 million in 1910. Steel production rose from 1.55 millions of tons to 13.14 million during the same period. The decade ending in 1910 was decisive in the history of the iron and steel industry. England still maintained a small margin of superiority in pig iron, which was lost in the next few years. As early as 1900 Germany was turning out more steel than the United Kingdom.

In 1913 the iron and steel output of the leading competitors

[1] The 10-year averages for iron, in metric tons, were as follows:

Decade	Iron Ore	Pig Iron
1880–1889.....	8,952,640	3,619,590
1890–1899.....	13,332,110	5,877,770
1900–1909.....	22,443,170	10,550,000
1910–1919.....	19,917,390	11,940,000

Note that the 1910–1919 decade carried Germany from the pre-war and war-time peak over into the post-war drop, and that the average thus tends to cover up both. The 1913 figure was 28 millions of tons of ore, with 21 million from Lorraine alone, and 17 million of iron. Thus with Lorraine was lost three fourths of the pre-war total, to which was added the Saar basin and the special advantages in Luxemburg.

was represented by the following round figures, in millions of metric tons:

	United States	Germany	England	France
Iron	31	17	10	5
Steel	31	17	7	5

German metallurgical production quadrupled between 1872 and 1900, while that of England was increasing only about thirty per cent. The history shut up in that sentence lies back of volumes which have been written on the dramatic rise of modern Germany. She entered the World War as the leading iron and steel manufacturer of Europe, only to lose a large part of the advantage she had prepared and then swiftly built up in a century of struggle. With Lorraine went three quarters of her pre-war ore, and the tip of Upper Silesia, which finally fell to Poland, is another intensely concentrated center of coal mining and metallurgy.

Economically, the Lorraine ores and the coal mines, furnaces, mills, and transport system of the Ruhr are inseparable. This fact, probably quite as much as disputes about reparations which furnished the occasion, accounts for the French occupation of the Ruhr region in 1923. The throat-cutting competition of the period of irritation and fear following the war was ruinous to all parties, and the above move, instead of putting an end to it, rather brought the conviction that no forcible or one-sided solution was feasible. In the end, time smoothed out some of the hatreds, and the necessities of all pressed for a spirit of coöperation and sane negotiation. The so-called Dawes Plan, which was practically the League of Nations scheme for the financial restoration of Hungary adapted to Germany, enabled the latter country to stabilize her currency and stop the mad inflation which was paralyzing reparation payments and dislocating the whole economic fabric of western Europe. The Locarno Treaty and the admission of Germany into the League of Nations both expressed and helped to further a new spirit of confidence, with the war farther than ever in the back-

ground. A Franco-German Commercial Treaty was signed in August, 1926, and the premiers got together at a trout luncheon in Thoiry, where they amiably talked over a commercialization of reparation bonds. At the end of September an international steel cartel was announced. Its central idea was to arrange the necessary coöperation between the Lorraine and other foreign ores and the coke production of the Ruhr, and its avowed purpose to stop the ruinous competition between the steel producers of different nations.

"Normal" steel production was estimated at between 26 millions of tons a year as a minimum and 30 million as a maximum, and this output was apportioned between the interested parties in roughly the following percentages (of a production of 29,000,000 tons):

Germany	42.89
France	30.98
Belgium	12.17
Luxemburg	8.25
Saar Valley	5.71

Such publicity and governmental supervision were provided for, the organizers claimed, so as to eliminate any grave danger of monopoly prices. Great cartels for price-fixing and apportioning production at the same time have always been precarious in the past. There is no intention here to argue that this is or is not the correct solution. In a sense, it carries Europe back to the pre-war period, when such combinations were often discussed. Some kind of international coöperation is absolutely necessary. The machinery for joint discussion, research, and action has been enormously developed since the war, and must still be greatly elaborated in contact with such problems.

OTHER METALLURGICAL INDUSTRIES AND THE PRODUCTION OF MACHINERY

Practically every branch of the metallurgical industries underwent expansion after 1870. Increasing amounts of iron and steel were absorbed by domestic manufacturers,

until finally Germany was fairly independent in respect of such materials. She imported vast quantities of ore, but was not obliged to do so, as war-time experience proved. Due to the mines of Upper Silesia, she ranked second in the world in the production of zinc, with 280,000 metric tons out of a total of a million. Moreover, Belgium was third, an important fact in connection with the war (the United States being first). In lead, Germany ranked third, after the United States and Spain. Her greatest weakness was in copper.

Steel production proved adequate during the war, but, strangely enough, Germany experienced some difficulty in turning out the needed amounts of coal. Other shortages entered into this situation. It is hardly rash to state that the war exploded the idea of the self-sufficing nation, though a glance at the post-war tariff systems of Europe suggests that this lesson has not been taken very much to heart. Germany was extremely short of petroleum, even after overrunning Rumania in 1916. This fact, and the enormous expansion of the chemical industry, put a heavy burden upon the coal supply. How to get the absolutely essential amount of copper was always a difficult problem. The automobile industry was continually embarrassed because rubber could not get through the blockade, and all manufactures involving the use of fibers — cotton, wool, jute, and silk — were kept in a mad search for substitutes. Germany might not have cracked even under this strain had it not been for the perennial and terrible dearth of food products which cannot be done without permanently, notably fats. Some of the industrial substitutes, such as paper for leather, were highly ingenious. Everywhere the German armies went were curious automobile tires, consisting of two steel rims with coiled springs between them — these being made even for bicycles.

Older competitors maintained their superiority in the manufacture of some kinds of machinery. For example, American and British harvesters, threshers, traction engines,

and farm tools continued to force their way into eastern Europe, and even into Germany herself. German ships continued to mount British nautical instruments. Hardware dealers in the Balkans carried stocks of German bolts, nuts, and screws, but British plumbing supplies and related fixtures held their place in the market. The cutlery situation was especially interesting. Most industries abandoned the putting-out system and handicraft workmanship rather rapidly after 1871. German cutlery split up into three distinct grades. First, there was, and still is, the old hand-hammered handicraft product, without any superior in the world, if indeed it has any equal. At the other extreme, there was developed a very cheap imitation of the English goods to which the market was accustomed — manufactured by machine methods similar to those which enabled the Germans to capture the toy industry. In the middle was a group of old concerns, notably some of the most famous at Solingen, which sufficiently mechanized the processes to make cutlery and instruments only slightly inferior to the hand-hammered grades, but at about half the cost.

Within the half-century preceding the World War, electricity was applied to practically every phase of human existence — illumination, transportation, communication, heating, and industrial power. The manufacture of electrical equipment kept pace with the expanding commercial use of electricity, and by 1914 was one of the great industries of Germany, employing about 250,000 persons. Its organization was representative of the highest type of industrial efficiency, producing for export as well as for home consumption. Leading factors in its growth have been its generation of hydro-electric power, cheap transmission, and wide distribution. The units grew particularly large, and no industry has been subjected to more concentrated control. In 1914 almost the whole of it was in the hands of two concerns, Siemens-Schuckert and the *Allgemeine Elektrizitäts Gesellschaft.*

THE CHEMICAL INDUSTRIES

German preëminence in the chemical industries has been achieved partly through the application of scientific knowledge, and to a lesser degree through the possession of superior natural resources. In potash, she had something approaching a world monopoly after 1871, but lost much of it in 1918. Besides recovering the lost provinces, France has opened up considerable deposits in North Africa. Important deposits of mineral salts are also found in the Harz Mountains. Sulphuric acid, potassium salts, sodium chloride, sulphur, and many other chemicals were supplied in increasing quantities to the domestic and foreign markets.

The most impressive case of Germany's rise to leadership is in connection with the dye industry. This is only one of a group of coal-tar products. In 1913 about three fourths of the world's dyes were made in Germany. Coal-tar or anilin substitutes were developed for indigo, and another world-old industry perished when a method was found for synthetically duplicating the famous purple murex product. Anilin is equally important as a basis for various medical preparations. Finally, the Germans have long excelled in the compounding of various serums, as well as the arsenates used in combating tropical and other amœbic infections. During the war other nations developed their coal-tar chemical industries, both to meet military needs and to make substitutes for German dyes and medicines. Both in the peace treaty and in subsequent tariff legislation, attempts were made to prevent the Germans from regaining their old preëminence. This was partly with military needs in mind. Likewise in the optical industry, heroic attempts were made by the enemy nations to duplicate certain fine grades of German glass. In this field, as in that of the chemical supplies for photography, the export market is somewhat more friendly to British and French goods than it was before the war or immediately after the peace, but the Germans and Americans seem likely to continue dividing most of it between them.

Concentration has been extremely marked in the German chemical industry. Moreover, innumerable agreements between independent producers have been maintained.

POPULATION CENTERS AND DISTRIBUTION

A study of the number of persons in the three most important occupational groups — agriculture (including forestry and the fisheries), industry, and trade and transportation — shows that from 1882 to 1907 concentration was particularly heavy in the case of the second group, where the number of persons employed in and dependent upon industry increased from 16,058,080 in 1882 to 26,386,537 in 1907. In agriculture, on the other hand, while from 1882 to 1907 the number of persons employed increased from 8,236,500 to 9,883,300, the total number of persons dependent upon agriculture, decreased from 19,225,455 to 17,681,176. In trade and transportation, a pronounced increase is to be observed. The number actively employed rose from 1,570,300 in 1882 to 3,477,600 in 1907, and the total number dependent upon these activities (including persons actually employed) increased from 4,531,080 to 8,278,239.

An astonishing growth of population in the larger industrial centers also occurred during the same period. The importance of the tendency of an increasing percentage of the population to concentrate in the urban districts is clearly represented in the population statistics. In 1885 approximately 8,600,000 persons lived in cities with a population in excess of 20,000, representing 18.4 per cent of the population of the country. Twenty-five years later (1910) the number had increased to 22,400,000 persons, representing 34.5 per cent of the population. Thus while the cities with a population in excess of 20,000 were growing rapidly, concentration in the large urban districts was particularly pronounced, increasing in the case of cities with a population in excess of 100,000 from 4,400,000 persons in 1885 to 13,800,000 in 1910. From 1885 to 1910 the number of cities with a population in excess of 100,000 increased from 21 to 48, re-

presenting at these respective dates 9.4 and 21.1 per cent of the total population.

INDUSTRIAL CONCENTRATION

Increased concentration of capital and labor in the hands of large enterprisers has been characteristic of German economic organization since the eighties. By dividing such enterprises into three groups: first, those employing from one to five persons, second, those employing from six to fifty, and third, those employing in excess of fifty-one employees, the following statistics are obtained for the years 1882, 1895, and 1907.[1]

GROUP I. ENTERPRISES WITH FROM 1 TO 5 EMPLOYEES

YEAR	NUMBER OF CONCERNS	TOTAL NUMBER OF EMPLOYEES
1882	2,882,768	4,335,822
1895	2,934,723	4,770,669
1907	3,124,198	5,353,576

GROUP II. ENTERPRISES WITH FROM 6 TO 50 EMPLOYEES

YEAR	NUMBER OF CONCERNS	TOTAL NUMBER OF EMPLOYEES
1882	112,715	1,391,720
1895	191,301	2,454,333
1907	267,410	3,644,415

GROUP III. ENTERPRISES WITH EXCESS OF 51 EMPLOYEES

YEAR	NUMBER OF CONCERNS	TOTAL NUMBER OF EMPLOYEES
1882	9,974	1,613,247
1895	18,953	3,044,267
1907	32,007	5,350,025

It will be observed that a large increase occurred in all three groups, both in the number of enterprises and in the

[1] Helfferich, Karl: *Germany's Economic Progress and National Wealth, 1888–1913*, p. 40.

number of employees. The relatively slow industrialization of Germany previous to 1882 is indicated by the larger number of small enterprises and the number of persons which they employed. For succeeding years an absolute increase occurred, but relatively those in Group I lost heavily after 1882. The second group showed remarkable growth, advancing in number and in persons employed far more rapidly than the smaller enterprises. The greatest advance, however, is to be noted in the case of enterprises with more than 51 employees. A division of Group III into establishments employing less than 1000 men and those employing in excess of that number furnishes additional evidence of the general tendency toward concentration. With a total of only 127 concerns, each employing 1000 or more in 1882, the number increased to 506 in 1907, employing all told 213,160 and 954,645 persons on those respective dates.

It is always well to be cautious in employing phrases like "industrial concentration," which have a way of creeping over into a loose popular literature and there acquiring vague meanings capable of deceiving the unwary. The growth of large plants like the Krupp Works at Essen is to be expected in an industry founded on concentrated deposits of high-grade coal and very special transport conditions for bringing in iron ore and carrying off finished goods. A similar case is that of the chemical industry around Mannheim, making coal-tar products. There is a great saving in spreading the heavy expense of experimentation and testing over as large an output as possible from the same group of raw materials. A point is reached even in such industries, however, where the organization gets unwieldy, and there is a tendency to subdivide them — rather by products than by processes in our day. This is pretty decided when the products become standardized. Such a tendency toward decentralization in war-time Germany was commented upon repeatedly, the Government even taking steps to prevent it in the interest of easy control. During the period of post-war conversion of plants to feed a changed market, the opposite was the

case. The financial concentration of industry, concerning which a somewhat romantic literature grew up around the name of Hugo Stinnes, is not necessarily the same thing. It may be temporary, as in that case, facilitated by a coincidence of inflation and a painful industrial readjustment.

There still exist in Germany enough small and inefficient plants to make some healthy concentration possible by lopping them off. On the other hand, there are plenty of small ones which are large enough for the work they do. An American illustration may be permissible to make this point clear. Two brothers set up an ice-cream factory outside a Massachusetts industrial city, using the ice from their mill pond and buying their milk from surrounding farmers. The product was immensely superior to that of the big plants which had to use extracts in bulk. They made a nice little fortune out of the business. Then they began to take orders from Boston, and almost immediately the demand outran the supply. These brothers could enlarge their plant — or rather build an entirely different one — and begin using the ordinary commercial raw materials. In that way they would change the quality of the product which had attracted the orders and embark in an entirely new enterprise under the same name; or they could continue as before, limiting the size of their plant by the local supply of ice and milk available without heavy overhead costs. In this case, it was the supply of raw materials which was limited, but in another it might be the market. The one must be fitted to the other. There is still a demand for the German "hand-smithed" knife and razor, at twice the price of the excellent standard brands from big Solingen firms. Here the supply is limited by the number of particularly fine craftsmen, and this is in turn more or less controlled by the demand at the prices which high-grade, strictly hand work makes necessary.

The generalized picture of a mythically efficient German which has been so widely circulated abroad for a quarter of a century or more does not bear close inspection. It turns out to be a blurred composite of many actual Germans,

some of them superior. There is the regimented, rule-of-thumb German of the black knitted goods industry, backed by the chemical science of dye-making and cleverly designed machinery. In sending these goods to England, the home of machine-made textiles, however, he takes back other textiles which he could very well make himself. Side by side in the market with the marvelously cheap mechanical toy from a German factory is the product of a Schwarzwald peasant who works by himself through the winter evenings. One is often merely clever and the other more or less artistic, but they do not belong in the same picture.

During the war the Germans meticulously copied the commonest type of French rotary aviation motor — with one exception. A little valve dome, extremely difficult to cut out and shape in one piece, was replaced by one simply stamped by halves and these mechanically riveted together with practically no trouble at all. Here is an example of strict copying modified by some German's detailed ingenuity. At the same time the Germans were perfecting their own quite different type of motor — water-cooled and fixed instead of air-cooled and rotary — and their enemies were copying it. Of the picture of an entirely unoriginal German, it might be remarked in the above connection that the generally approved design of aviation motor at the close of the war was much more like his than the French as of 1914.

The mythical German of intricate financial organization turns out to be equally commonplace when the various models are examined instead of the picture. Many German firms and branches abroad were liquidated by foreigners as a consequence of war, sequestration, and confiscation. American firms have branches in Germany, and German firms establish branches in America, in peace-times. Finally, the study of the reparations question, especially in connection with setting up the Dawes Plan, furnished a special opportunity for intimate contact with German methods by those familiar with others. As to the infinitely regimented, detailed efficiency of the lower ranks, German ac-

counting was found hardly up to British and American standards.

French economists have often expressed the belief that German industry was structurally defective and unsafe at the period when it presented the most imposing appearance, because it was deeply in debt and founded too much on credit. Financially, this meant that the capital of big factories was often largely supplied by industrial banks, which borrowed part of it abroad. The nature of a good deal of the foreign market also called for a use of commercial credit which emphasized this economic peculiarity — a sound and progressive one as the Germans saw it, but viewed with less confidence by their competitors. For instance, a Berlin firm was glad to put large shipments of photographic supplies on the shelves of a Rumanian dealer, transport charges paid and risk covered, being reimbursed in easy installments as the goods were sold. The practice built up business, but British and French firms felt that the Germans carried it beyond the limits of safety.

During the inflation period, and especially after swift depreciation of the currency assumed its record-breaking pace in 1922, certain Germans like Hugo Stinnes practiced what might well be called the science of going into debt. In such a time a debt contracted for a thing of permanent value like real estate or working industrial plants keeps getting smaller in terms of gold, and easier to pay as inflation proceeds. Stocks, being priced according to their yield, rise much more slowly than the gold value of the paper money declines — in terms of gold they actually tend to fall substantially. Stinnes bought 35,000 original shares of the Berlin Commercial Company for a million and a half of gold marks in 1922, though their value on the Bourse before the war had been around fifty million. Starting with a capital of a few thousands of dollars, he built up a consortium which united over four thousand enterprises, some of them very large. His heirs did not take his final advice to "pay the debts," and the consortium crumbled almost entirely during

the stabilization period. The prices, in gold, which had been absurdly low, swung over in the opposite direction — incidentally giving a new set of profiteers their chance.

During the first year under the Dawes Plan (ending August 31, 1925), many of the new firms of the war and inflation periods foundered, and the following winter brought a series of failures which constituted something like an economic crisis. Conditions improved decidedly during the spring and summer of 1926, and the second annual report of the American Agent-General under the Dawes Plan (S. Parker Gilbert) characterized the general economic situation as the most satisfactory since stabilization. If we are honestly seeking the long-time trends, we must write off most of the literature on the inflation period as merely confusing, and banish from our minds any conventional picture of *the* German as sharply distinguished from other people. Germany is a well-organized nation, with many skilled workmen and trained business men. She still has vast resources, and there is every reason to hope that she has a great future as an industrial country yet before her. The nature of those resources, together with their position relative to others and the markets, suggests that the typical unit of production will continue to be fairly large. Beyond this, the historian is silent, listening very guardedly to the prophets.

There are still many independent handicraftsmen in Germany, as in other industrial countries. They are probably a more important element, on the whole, than in Great Britain. The putting-out system is still extensively used in the larger industrial communities, although the exact number so employed is difficult to ascertain. In the case of a majority of the rural craft workers of both types, their industrial activity is still largely incidental to their agricultural pursuits. The most conspicuous examples of the putting-out system in 1914 were the clothing, embroidery, and lacemaking industries. Both it and the factory system have made inroads upon independent home work in the production of cutlery, carved goods, toys, and musical instruments.

CONSTRUCTION OF WATERWAYS

In Germany the construction of canals and of highways which could withstand heavy traffic began later than in France and England, although fairly extensive road systems were built in the western section of the country during the Napoleonic period. The introduction of the railway came at a time when industry was just beginning to assume importance, and temporarily forestalled the development of other means of communication. After 1850, however, the construction of roads proceeded rapidly throughout the country.

The development of the railway system was likewise responsible for the neglect of canal-building. The larger navigable rivers of Germany, the Rhine, the Elbe, the Weser, the Oder, the Vistula, and the Danube, had for many centuries been important channels of communication. The coming of the steamship had greatly increased their usefulness. But canals were few and relatively insignificant until after the formation of the Empire. Upon the completion, from 1871 to 1903, of several extensive canal projects, Germany possessed navigable waterways measuring in total length nearly 9000 miles. A large percentage of this total (5041 miles) consisted of navigable streams; canals totaled 1369 miles; channeled rivers about 885 miles, and the smaller canals connecting lakes and other bodies of water, made up the remainder. Of the more important projects undertaken in recent years, the Kiel Canal, joining the Baltic and the North Seas, and the Dortmund-Emden Canal should be mentioned. Before 1914 most of the important rivers of Germany were connected by canals, so that the industrial centers were provided both with water and rail transportation, permitting them to import raw materials cheaply and to export their commodities into distant parts of the empire or even into foreign countries without great difficulty. Yet, in spite of the encouragement which has been given to the development of the waterways and the large volume of traffic carried, the canal projects of Germany, from a purely financial standpoint, were unsuccessful.

RAILWAY CONSTRUCTION

The rapid urbanization of Germany mentioned elsewhere in the present chapter would have been impossible had it not been for the development of the railway with its accompanying advantages, cheaper transportation of goods, and greater mobility of labor. The first railway to be successfully operated in Germany was completed in Bavaria in 1835, connecting Nuremberg with Fürth. A line between Leipzig and Dresden was opened four years later, and one between Leipzig and Magdeburg in 1840. In fairly rapid succession new lines were constructed in various parts of the country, connecting the more important industrial centers. By 1871 many of the main lines had been completed. The growth in the railway system since 1871 is shown in the following table:

RAILWAY MILEAGE: GERMANY

YEAR	TOTAL (Kilometers)	PRIVATELY OWNED (Kilometers)	GOVERNMENT OWNED (Kilometers)
1870	18,887	10,612	8,274
1875	27,981	15,923	12,058
1880	33,865	13,106	20,214
1885	37,967	5,288	31,901
1890	41,818	4,342	37,476
1895	45,203	3,845	41,358
1900	49,878	4,166	45,712
1905	53,822	4,135	49,687
1910	59,031	3,679	55,353
1914	61,749	3,682	58,067
1920	55,556	3,612	51,944
1922	55,350	3,658	51,691

The problem of government ownership of the railways faced the various States from the outset. In southern Germany the policy of state ownership developed early. In fact, many of the railway projects in this part of Germany were initiated directly by the Government and continued to remain in its hands. In Prussia, the Government at first assumed the responsibility of chartering private railway companies, in a number of cases guaranteeing interest payments on their indebtedness. The early policy of Prussia was therefore to encourage private rather than government

ownership. The first attempt to construct a state-owned railway was undertaken by Brunswick only three years after the Nuremberg–Fürth line had been completed. Almost immediately similar efforts were made by other States. The introduction of government-owned railways in Prussia came in 1848. Not, however, until Bismarck took the reins of government was extensive nationalization undertaken. It was his intention to unify the railway system of Prussia and eventually to bring the railways of the various States under imperial control, which because of state opposition he was unable to accomplish.

The annexation of Hannover and Hesse-Cassel gave Prussia control of the government-owned railway systems of these two States. By annexation, again, Prussia gained possession of the railways of Nassau, and of a section of the Main–Neckar railway system; she was also able, through the purchase of private lines, to bring within her control a large number of formerly independent railways. By 1879 the Prussian Government owned and operated within her territory a total of 5300 kilometers and operated besides, 3900 kilometers which were privately owned. Thirty years later the State owned and operated lines had increased to 37,400 kilometers, with only 2900 kilometers remaining in the hands of private companies. Throughout Germany the extension of other state-owned railway systems also proceeded rapidly, so that by 1914 practically the entire railway system of the nation was owned by the various States.

After 1871 the central Government acquired control of the railways of Alsace-Lorraine, although the management was vested in the hands of the Prussian Railway Administration. Unity of action on the part of the various state railways was secured through the establishment of the Imperial Railway Office, which was organized shortly after the formation of the Empire. Through this centralized control it was possible for the central Government to exercise decisive influence with respect to the fixing of rates and the regulation of matters of general interest to the railway system as a

whole. Thus, through unification and standardization of rates, the difficulties which normally arise under a system of state ownership were largely overcome, and the railway system of Germany was enabled to care effectively for the growing industrial and commercial needs of the nation.

While this system maintained a singularly high level of efficiency during the war in spite of reduced personnel, vastly increased demands, and the use of large amounts of material beyond the frontiers, it was greatly disorganized by the events following the armistice. Defeated Germany was assessed 5000 locomotives and 150,000 freight cars at the moment of the greatest strain of readjustment to peace-time conditions. The various state lines were transferred to the central Government under the new constitution.

Railway transport was only one outstanding case of the losses entailed by progressive inflation. Like postal rates, passenger fares and freight charges can be readjusted by a Government only periodically. When the value of the paper money which it must accept is sinking from day to day, the loss goes on increasing until the time — usually at least a month or two away — when new schedules of rates can be published and put into effect. If this process follows the purchase of lines at excessive prices and is accompanied by general economic demoralization, worn materials and the employment of much useless personnel, the deficit may soon become very large.

When the Dawes Plan went into effect in 1924, the operation of these government-owned lines was turned over to a joint-stock company, and 11,000,000,000 in gold bonds issued to produce revenue for reparations. The directors were chosen by the Government, the trustees of the above bonds, and the private holders of the capital stock of 26,000,000,000 gold marks. Thus the operation of the German railways is bound up with that of the Dawes Plan, concerning which a word will be added later. After two years, during which the interest on the obligations was met without serious incident or strain, the system was giving better

service than when the company took it over. This is, of course, no argument one way or the other concerning the relative efficiency of private and public management. If the one worked well after the inflation period, so did the other before.

In few countries of the world has government ownership entered so extensively into commercial and industrial life as in Germany. In 1914 the Prussian Government owned and operated mines, smelting and salt works, and railways — having, as noted above, almost complete control of the railway system of the state. The Governments of Bavaria and Würtemberg operated railways, telegraphs, and various mining enterprises. With few exceptions the different States developed those industries which might be of fiscal value or which were necessary adjuncts of other state activities. In the case of the railways the additional argument of military preparedness led to an aggressive program for the development of means of communication throughout the Empire. Lest this suggestion mislead somebody, it should be added that the railway systems of all the Continental great powers have been built with military needs in mind, and that Great Britain is merely fortunate in possessing no land frontiers, so that her commercial communications automatically adapt themselves to both purposes.

THE LABOR MOVEMENT

Previous to 1890 the German labor movement developed but slowly. The close affiliation of trade-unionism with socialism for a time seriously endangered the existence of these organizations, for the Anti-Socialist Law of 1879 also threatened the status of a large number of labor combinations. Many trade unions therefore came under the ban of the Government and were dissolved. Between 1878 and 1890, while the Anti-Socialist Law was in operation, the trade unions of the country were reorganized, many unions assuming the form of friendly societies. It should not be understood that all labor combinations were eliminated with

the passage of the Law of 1879, for many unions which were non-political in character were not interfered with. With the repeal of the restrictive legislation, trade-union activity and membership increased and definite policies were formulated.

In 1914 four distinct types of labor combinations were in existence. First, the Free or Social Democratic Trade Unions, associated with the Social Democratic movement; second, the Hirsch-Duncker unions, most of which had withstood the attacks against trade unions during the late seventies and eighties; third, the Christian unions; fourth, the "Pacifist" unions, so-called; and fifth local and independent unions. The combined membership increased from slightly more than 1,000,000 in 1901 to over 3,791,000 in 1911. With the exception of the chemical industry, labor in nearly every branch of industry was subjected to formidable control. The most extensive combinations were found in the mineral, metal, and textile industries, in the building trades and in transportation. The Free Unions as mentioned above, were closely affiliated with the Social Democratic movement, whereas the Hirsch-Duncker unions opposed the principles of socialism; in fact they were organized with this policy definitely in view. The influence of the latter was particularly strong in the machine and metal industries, but their total membership only slightly exceeded 100,000 in 1911. The non-Catholic Christian unions and the Catholic unions likewise exerted considerable influence. The avowed purpose of the latter was to oppose the influence of the Social Democratic unions. The independent trade-union movement was particularly strong among the railwaymen, but it also brought together many of the Polish workers in the coal mines of Westphalia and Silesia. Of a very different character were the "Pacifist" unions, which opposed the use of the strike. They were extensively subsidized by employers, and can hardly be regarded as trade unions in the ordinary sense of the term. Their membership in 1911 was about 162,000. The purely local unions were of little importance;

their membership in 1911 was only slightly in excess of 7000. The Social Democratic or Free Unions, with a membership of some two and a half millions before the war, were by far the most influential.

Thus at the outbreak of the war, the situation of organized labor in Germany was still a little obscure and uncertain. Unions were recognized by law, but fiercely fought, and even completely excluded, by powerful groups of industrialists. They were divided by regional, religious, political, and even racial differences in their origins and programs. To some extent they were undermined by the relatively high wages and good treatment accorded by the very employers who used the blacklist and boycott most ruthlessly, and affected also by the elaborate state system of social insurance. During the early part of the war the unions were inclined to be neutral, and in many cases even to coöperate with the Government against more radical elements which really opposed the contest and attempted strikes or sabotage. Complete and final recognition of their legal status was followed by representation on government bureaus. For the moment, the antagonism with which employers had often lumped unionists and Socialists together in their pre-war views seemed to have died down and animosities were buried in a common patriotism. Then a group of more radical Socialists split off in 1916 and began to oppose the war. Practically all the Socialists were urging the Government to attempt a just peace after the Russian Revolution of March, 1917, and the declaration of war by the United States.

Labor-unionism was obscured in the pronouncements, struggles, and strikes from that time until the fall of 1918, because it was revolutionary socialism which prepared and carried out the overthrow of the Hohenzollerns. Once a wave of proletarian resentment had swept away the old Imperial Government, the Moderate Socialists stepped in, and eventually got control of the Provisional Government. There was some fighting, but the moderate group coöperated with non-socialistic parties and trade-union leaders to head

off the attempt at founding a government of the Russian soviet type. They were backed, there can be no doubt, by the sentiment as well as the votes of the nation at large.

One effect of the agitation of 1918 was to increase interest and membership in the socialistic unions. In the course of the revolutionary readjustment at the end of 1918 and the beginning of the following year, many workers who entered more radical organizations of the soviet type shifted to others, and the total membership rose to about 7,000,000 by 1920. This was due partly to political manipulation, as the unions were made the sole recognized representatives of the working classes, and the older labor leaders succeeded in joining the successful move for an eight-hour day with their movement. It should be borne in mind also that the new republican atmosphere was favorable to the growth of trade-unionism, and that the general misery, coupled with a reaction against an unsuccessful war, had played no mean rôle in the momentary wave of radicalism. By 1923 there were more than 13,000,000 organized workers, including some 9,000,000 Socialists, 2,000,000 members of federated Christian unions, 650,000 Hirsch-Duncker (politically liberal, non-socialistic) unionists, and roughly 700,000 organized rural workers, plus other smaller groups.

The new constitution of 1919 provided for a hierarchy of labor councils, to form District Economic Councils in conjunction with representatives of the employers, and finally for a single Federal Economic Council for dealing with problems affecting employment, labor conditions, and related problems. As far as this goes, it is functional or industrial representation. In practice, it has not gone very far. Works Councils and a provisional Federal Economic Council were set up in 1920, but the latter is merely an advisory body, and it is in no sense an authoritative branch of the Government, with powers matching those of the political parliament or Reichstag.

SOCIAL INSURANCE

State socialism — which is not socialism, but rather an attempt to prevent it by inoculation — was "made in Germany."[1] Bismarck had in him a curious streak of Christianity, which was on exceptionally good terms with his stolid patriotism. When the two spoke in unison, the effect upon the rank and file of his countrymen must have made him feel a little foolish, comparing it with his bootless attempt to deal with socialism by force. If only it could be made tolerably good business, it would certainly be sound politics to make the worker as sure of a job as possible, secure him against sickness and injury, and make some provision for helpless age. Time has vindicated Bismarck's belief that such insurance must be as sound as the State. Mechanical details have differed from one country to another as the idea has spread, but as to the general principle there is no middle ground. Perhaps what is sound business in the end is also good politics — we may hope so, at least. He probably lived to see the dual success of this scheme transcend his wildest dreams.

The first measure offered to the Reichstag was an accident insurance bill. This seemed logical and politically feasible, as an extension of the idea of employers' liability legislation. Though introduced in 1881, it met unexpected obstacles, and did not become law until 1884, becoming effective the following year. In the meantime, a sickness insurance bill which had been attached to it in 1882 was passed in 1883, going into effect at the end of 1884, several months after its companion had finally been passed. The general plan was for employees, employers, and the State to coöperate in the expense, with enough public supervision to guarantee stability and eliminate any element of private profit.

These bills, at first somewhat experimental, were amended from time to time to improve administration and take in new groups of workers. An old-age and invalidity law was

[1] For a discussion of the background of socialist agitation, see the final section of Chapter IV above.

added in 1889, to take effect at the beginning of 1891. After the scheme had proved itself, permeated the economic mechanism of the whole Empire, and been copied by a large fraction of the world, it was finally coördinated and codified in 1911. An enormously complicated mechanism was set up for administering its elaborate provisions in the interest of the millions of people affected, scientifically calculating the risks involved, etc. Unlike the English law mentioned in the last chapter, the accident insurance measure was not based on the direct liability of employers, but each contributed to a fund administered by a mutual association, which calculated the risks, fixed schedules, supervised the installment and use of safety devices, and paid indemnities.

Again unlike Great Britain, Germany never adopted a national system of unemployment insurance, though she was obliged to have recourse to unemployment allowances after the war. The typical institution for handling this problem has been the labor registry or exchange. Most of the largest are municipal, though some are operated by unions, and even by private persons. Some of the States, like Würtemberg, Bavaria, and Baden, have amalgamated these agencies into systems. Both in connection with the exchanges and independently of them, there is a vast network of public and private lodging-houses to take care of the unemployed at nominal rates — sometimes for work. There is some actual unemployment insurance in German municipalities, but this form of solution has not been very popular.

Union funds for strike benefits, etc., might be called a species of insurance. These were hard hit by the disastrous peace of 1919 and especially by the inflation period, and the system has been only slowly put into operation again. In fact, the whole social insurance mechanism went through a terrible ordeal. Those entitled to benefits suffered from the depreciation of the currency, like the recipients of other fixed payments. Only those who have intimately observed one of these waves of inflation can fully appreciate the misery they entail. People who had thought their old age secure

found themselves in the most abject poverty. Those with a few pennies for bread waited interminably in lines, and whole sections of the population existed literally for years on a diet as tedious as tepid water, even if it had been sufficient.

STABILIZATION

The territorial losses of Germany following the Treaty of Versailles, great as they were in terms of area, were unimportant in comparison with the loss of raw materials. Many of the richest mineral deposits, especially iron and zinc ore, and important resources in coal were transferred with the cession of territory. Germany lost the major part of her potash, and also a large fraction of her cotton industry. The industrial crisis beginning in 1921 further aggravated the already serious economic situation. Note that the "losses" are such only on the assumption of considerable sharpness of national economic boundaries. All the plants, mineral deposits, and transport facilities remain just where they were. There need be nothing permanent about the disorganization of the markets. What can be done with this machinery and these resources depends upon Europe's capacity to organize herself for production. The emotions remaining from the war were naturally something of a hurdle to be got over at the start, but this can be raised or lowered.

So serious did the situation appear in 1923, after the occupation of the Ruhr, that nothing short of the break-up of Germany was predicted in many quarters. It was sincerely believed by many Germans that this was France's real purpose, to be forestalled only by heroic resistance, aided by the sympathy of other powers which feared lest one nation become too strong. "French pressure and Germany's costly passive resistance in the Ruhr," wrote Joseph S. Davis, "heavily reduced German industrial productivity and precipitated a collapse of the German mark, in the third quarter of 1923, which culminated in political disturbances, a brief period of acute economic breakdown, and a severe economic crisis. Thanks to a determined policy of currency

and fiscal sanification, supported by the promise of constructive action upon reparation issues, the recovery has been surprisingly prompt, though still incomplete and accompanied by a severe credit stringency."[1] The proposals of the Dawes Committee had been submitted in April, 1924.

According to the terms of the armistice, Germany was to make compensation for the physical damage directly caused by her aggression to Allied civil populations and property. Unfortunately, the wording was not such as to put its meaning beyond legal quibbles, but the spirit was made particularly clear by Wilson's Fourteen Points, upon which the agreement was assumed to rest. Then British and French politics got into the peace treaty. Pensions and separation allowances were injected into the interpretation of "all damage to the civilian population of the Allies." The document was founded on the formal assumption that Germany was wholly responsible for the war. Defeated and disarmed, she was in no position to reject this confession under duress. As such, it could have no bearing upon any question of moral guilt, and no standing as historical evidence concerning the facts; but the new interpretation of "civilian damages" made it of enormous financial importance. To the German mind "reparations" had been doubled, or worse, by a juggling with language which was nothing short of a breach of faith, and now included in fact what was repudiated in name: a war indemnity. Furthermore, the sum was not even fixed, but left for later consideration. President Wilson and the American delegation at the Peace Conference of Paris objected to the change, but finally gave way, apparently on the ground that it was impossible to get an agreement upon a reasonable sum at Paris, and the matter had to be left for time to show the unwisdom of demanding the impossible. The American Senate failed to ratify the treaty, and the sum assessed by the Reparations Commission in 1921 was 132 billions of gold marks, or about 33 billions of dollars. Bonds

[1] "Economic and Financial Progress in Europe, 1923–24," in *Review of Economic Statistics*, July, 1924, p. 207.

were to be issued by Germany to cover interest and principal on 50 billions of marks, payments to begin immediately. The remaining bonds (class C) for 82 billions of marks, were to be dealt with later, when there should be revenues to cover them, or some of them.

Trouble began almost immediately. The Germans regarded the A and B classes of bonds, in the sum of 50 billions of gold marks, as ample if not excessive total reparations, and the imposition of the remainder as a deliberate attempt to crush them economically. Without pronouncing on the question of justice or good faith, the British were inclined, on second thought, to agree with them as to the total sum which it was feasible and proper to collect. France was the stumbling-block. Having arrived at a total on paper, she held out for taking radical measures against her ancient enemy or making any scale-down contingent upon reductions in her own obligations to her allies (or acceptance by them of Class C bonds in payment, which amounted to the same thing). In the meantime, German economic conditions seemed to be approaching complete chaos. A loan was impossible because of the uncertainty that the fantastic indebtedness could ever be paid. Inflation went on apace to meet the running expenses of the Government, the note issues reaching five hundred times the 1913 figure before the end of 1922, and capital was being sent out of the country at an alarming rate. The Reparations Commission, dominated by France, refused a moratorium. Delays in payments in kind furnished a technical excuse for joint intervention.

In January, 1923, the French and Belgians occupied the Ruhr, the British refraining, and finally deciding that the move was not permissible under the terms of the treaty. Great Britain's own economic situation was bad, and she was more interested in reviving Germany than in crushing her. The mark plunged so fast that calculations of prices became impossible without cutting off conventional numbers of ciphers, and an article worth a million marks at the close

of Saturday's business would sometimes be priced at two millions Monday morning. Nobody saved any money, to see its purchasing power halved in a few days. Early in July a dollar exchanged for only 200,000 marks, at the close for nearly 1,000,000 and in September for 53,000,000. In that month formal passive resistance was abandoned in the Ruhr, where production was already practically at a standstill. The French found it an elephant on their hands, with world sentiment against them and their chances of ever realizing anything growing less daily. By November they were ready to acquiesce in the appointment of two committees of experts. One of these studied the flight of German capital and reported that the only promising remedy was stabilization. The other, under the chairmanship of General Dawes, formulated a plan for balancing the budget and putting the reparations payments on a business basis, out of reach of politicians.

The so-called Dawes Plan, which went into effect in September, 1924, is founded on the basic assumption that all action must conform to the one necessity of holding the currency stable. A loan of 800,000,000 gold marks was floated, and a new rentenmark created, which has been held at the par value of the pre-war mark for nearly two and a half years at this writing. This has been done by making all payments on reparations accounts in marks and within the country, leaving to Germany's creditors the responsibility of converting these into other currencies. Such transactions are controlled in a way to prevent the rate of transfer from becoming so rapid as to endanger the stability of the mark. Theoretically, this would mean the refusal to cash checks except in cases where foreign credit balances exist to pay them. In practice, it means a transfer committee of six members which is constantly watching imports, exports, and exchange, and undertaking no payments which cannot be carried through. Thus creditor nations are obliged to maintain such commercial relations as to make the transfers possible, and the one insurmountable obstacle of the period

before the Dawes Plan went into effect is removed. The committee is composed of the American Agent-General, one other American, and one member each from Great Britain, France, Italy, and Belgium.

Other features of the scheme are a German bank of issue under the supervision of the foreign group, a transportation tax, provisions for diverting some of the customs and internal revenue to reparations, and the stock company mentioned above as having taken over the German railway system. To this writing, the first annuity of 1,000,000,000 gold marks and the second of 1,220,000,000 gold marks (about $300,000,000) have been made. The scale of payments provides for a gradual rise to 2,500,000,000 in the fifth year. French and Belgian economic control of the Ruhr ceased within two months, and the military evacuation occurred at the close of the first year — though the occupation of the regular zones, as provided in the peace treaty, continued. The evacuation of the Ruhr was perhaps hastened by France's need of her troops in Morocco and Syria, but it was bound to occur soon, as the Dawes Plan does not allow of independent intervention. The schedule of payments after 1928 is quite heavy, and calls either for large borrowings by Germany or for a large increase of German exports if the transfers are to be made over a long period of years. Borrowing, of course, is no solution of Germany's problem. It merely postpones it and changes its form.

An important conference was held in Locarno in October, 1925, producing a general series of arbitration treaties between European nations and paving the way to Germany's entrance into the League of Nations the following year. In this new atmosphere various commercial agreements became feasible, including two preliminary Franco-German ones signed in 1926 and plans for a much more sweeping general arrangement requiring more time to work out. The Dawes Plan and the necessity for tariff and trade readjustments to which its operation had pointed were factors in

bringing to a focus the plans for a carefully prepared international economic conference in 1927.

Franco-German commercial relations must not only get back to the most-favored-nation basis of the pre-war period, but the reparations tangle, if it is to be resolved, will eventually force them beyond. France's one-sided right to such treatment under the peace treaty expired in January, 1925. Their changed economic positions, as well as the one-sided reparations transfers, raise new difficulties. Both are now industrial nations. First the instability of German money, and then that of French, produced temporary obstacles to the smooth working of any tariff arrangement. Finally, a French law of 1919 raised new obstacles to most-favored-nation commercial treaties by adopting reciprocity as a basis; that is, the tariff rates agreed upon were to be fixed for each separate case, and any nation subsequently negotiating with France could have no guarantee that at the close she would enjoy equal advantages with those having made treaties earlier.

Endless trouble would have been avoided by listening to the American contention in the Peace Conference, adhering scrupulously to the spirit of the Fourteen Points and the armistice agreement, and limiting reparations payments by Germany to the covering of direct physical damages. Those Class C bonds for 82 billions of gold marks are still (1927) a thorn in the side of economic Europe, causing a sore which festers and half heals by turns. The delay in getting at the reparations problem by sound economic methods postponed Inter-Allied debt settlements. Interest went unpaid, and new loans for the post-war period got entangled with the still unfunded ones for the war, which were in turn a mixture of advances for actual war expense with those for industrial and other purposes. Every attempt to cancel or otherwise readjust the German indebtedness represented by Class C bonds has come to be associated with French claims that Great Britain and the United States should take the loss by like reductions in the Inter-Allied

debts. As European nations were drawn more and more together by their post-war hardships and problems, this assumed the form of propaganda against America as "Uncle Shylock." This provoked a lively and understandable resentment on the part of Americans who remembered that their delegation had objected on principle to the huge additional reparations claim which they were later asked to pay indirectly by the cancellation of Inter-Allied obligations. The mistakes have become history, however. Recriminations are useless, and there is little doubt that the whole tangle will have to be cleared up eventually on the principle of all-round capacity to pay.

SUGGESTIONS FOR FURTHER READING

*Ashley, W. J.: *The Progress of the German Working Classes.*

Baruch, B. M.: *The Making of the Reparation and Economic Sections of the Treaty.*

Bergmann, K.: *Der Weg der Reparation.*

*Brooks, A. H., and La Croix, M. F.: *The Iron and Associated Industries of Lorraine, the Saare district, Luxemburg, and Belgium.* (Washington, 1920. Bull. 703, U.S. Geological Survey.)

*Clapham, J. H.: *The Economic Development of France and Germany,* chaps. IV, XI.

*Dawson, W. H.: *The Evolution of Modern Germany.*

——— *Industrial Germany.*

——— *The German Workman.*

Frankel, L. K., and Dawson, M. M.: *Workingmen's Insurance in Europe.*

Gibbins, H. de B.: *Economic and Industrial Progress of the Century,* chaps. XXXI, LV.

Handbuch der Wirtschaftskunde Deutschlands.

Helfferich, K.: *Germany's Economic Progress and National Wealth,* 1888–1913.

Howard, E. D.: *The Cause and Extent of the Recent Industrial Progress of Germany.*

*Huber, F. C.: *Deutschland als Industriestaat.*

*Keynes, J. M.: *The Economic Consequences of the Peace.*

——— *A Revision of the Treaty.*

Koch, H.: *Die deutsche Hausindustrie.*

*Lichtenberger, H.: *Germany and its Evolution in Modern Times.*

Marshall, A.: *Industry and Trade,* book I, chap. VII.

May, R. E.: *Die Wirtschaft in Vergangenheit, Gegenwart und Zukunft.*

Morgan, J. H.: *The Present State of Germany* (1924).

*Moulton, H. G., and McGuire, C. E.: *Germany's Capacity to Pay.*

Moulton, H. G.: *The Reparation Plan.*

*Ogg, F. A., and Sharp, W. R.: *Economic Development of Modern Europe*, pp. 218–31; 668–70; 687–90; 784–89; 825–34. Also suggestive bibliographies for the chapters in part v, added by Dr. Sharp since the War.

*Pohle, L.: *Die Entwickelung des deutschen Wirtschaftslebens im letzten Jahrhundert.* 2d edition, Leipzig, 1908. Excellent. Note bibliography on pp. vii and viii.

*Sartorius von Waltershausen, A.: *Deutsche Wirtschaftsgeschichte, 1815–1914.*

*Schmoller, G.: *Grundriss der allgemeinen Volkswirtschaftslehre.* 2 vols. (Consult table of contents.)

Sée, Henri: *La Vie Economique de la France Sous la Monarchie Censitaire (1815–1848)*, chaps. II–V.

Sombart, W.: *Die deutsche Volkswirtschaft im neunzehnten Jahrhundert.*

Statistisches Jahrbuch für das Deutsche Reich. (A particularly useful annual.)

Veblen, T.: *Imperial Germany and the Industrial Revolution.*

Wagner, A.: *Agrar- und Industriestaat.*

Wolff, E.: *Grundriss der preussich-deutschen sozial politischen und Volkswirtschaftsgeschichte.* (Best on the earlier periods.)

*The books so marked are particularly recommended for their solidity and thoroughness, independently of the question of their difficulty. Unfortunately, the best treatments are not in English in every case. There are many excellent articles, covering almost every phase of the economic history of Germany, in the *Handwörterbuch der Staatswissenschaften.*

A real bibliography for the period since 1914 would be impossible, and only a few titles have been suggested. In writing anything on such recent events, one is embarrassed at every turn by a sense of the futility of trying to pick out what is of lasting significance. There is only one reliable way to find that out — by waiting to see what lasts! These practically current events must sometimes be touched upon, even though they are not, strictly speaking, economic history, and should occupy a very small place in a general survey. The periodical literature is perhaps the best source. In that way the vast numbers of books and articles can also be traced and, to some extent, appraised. The following are suggested in particular: *Economic History Review, Economic Journal; American Economic Review; Quarterly Journal of Economics; Journal of Political Economy; Annals of the American Academy of Political and Social Science,* London *Economist;* the London *Times* (with supplements), *Revue d'Economie Politique, Archiv für Sozialwissenschaft und Sozialpolitik, Journal of the Royal Statistical Society,* and *Foreign Affairs* (New York). The *Reports* of the International Labour Office are invaluable, and that organization also publishes the International *Labour Review.* The United States Department of Labor also publishes a valuable *Monthly Labor Review.* The World Peace Foundation, in Boston, sends out booklets, including bibliographies, which furnish a running commentary on the publications of the various League of Nations bureaus, among others. See in particular the catalogue of the documents prepared for the International Economic Conference of 1927.

CHAPTER X

FRENCH INDUSTRY SINCE THE REVOLUTION

PECULIARITIES OF CONDITIONS IN FRANCE

To imprison the main facts concerning the industrial development of any country during a long period in a single chapter is always difficult. Agriculture is in reality an extractive industry, which refuses to be separated, particularly if it happens to be relatively important, as in France. To set off the growing of grapes from the manufacture of wine is artificial, and the same remark holds good for sugar beets and the refineries which extract sugar from them. There are other, more serious reasons why the growth of industry in France since the eighteenth century is unusually hard to deal with. A series of wars, ending in those incident to the French Revolution, deprived her of most of her colonial empire, crippled her foreign investments and trade, embarrassed her finances at home, and in other ways radically changed her position as an industrial nation. For example, a series of inventions gave cotton textiles an enormous impetus at the very time when she was least in a position to import the raw material and keep pace with the change. Silk declined in importance relative to cotton, and absolutely during the French Revolution itself. The great blockade affected the introduction of machinery and the growth of the factory system in a multitude of intricate ways, at a critical time. Belgium was to profit more than France from what was actually accomplished in the way of stimulating mining and machine industry during the Napoleonic period.

France was really setting out on a new and uncharted course, in a changed European situation, after the Peace of 1815. The British capital and talent which had been a factor in the previous century, now favored Belgium, and later Germany to a lesser extent, when they did not flow

overseas. They were still free to come, however, and often did so during the first half of the nineteenth century when the French situation made it possible to make money. Both Great Britain and Belgium, with their superior natural resources and early start, were quite near to France. She has been relatively poor in coal, the "bread" of industry, as the French call it, from the beginning. Though her production rose from a little over 4 millions of (metric) tons in 1850 to 41 millions in 1913, this figure does not seem so imposing when compared with Germany's 279 millions and England's 292. France also lacked the iron ore to erect the fundamental industry for turning this coal into the great machinery which is the brawn of the new economic society. At the very moment when the basic process promised to correct this, Lorraine was taken from her and she lost her favored position in Luxemburg, suddenly raising up on the Rhine a new and more dangerous rival than Great Britain.

It would not be just to characterize French industry as "stagnant" during this middle period of approximately a century, after 1815. Her economic fabric was different from that of her rivals. The richness of her soil and the sturdiest qualities of a great people tended to make her an agricultural country, and the slow growth of population emphasized the tendency. Frenchmen could have their "well-being" without crowding into smoky towns, and on the whole they were satisfied to have it so. Moreover, they could practically feed themselves, a fact which hindered the development of an urge to world commerce and to the industry to support it in the weak places. Nature seemed almost unkindly kind to them as a people placed among teeming and struggling world powers. French agriculture never developed the tendency toward big holdings and capitalistic methods, so characteristic of England and parts of Germany. Inheritance laws were held partly responsible for this fact, and it in turn for the slow growth of population. There are many explanations of this kind of thing which may be followed around in pleasant circles, but it seems best to

refrain. Of the many factors which swarm into the mind, we frankly do not know which are "causes" and which "effects," if it is possible so to divide them up, and any weights which might be assigned are arbitrary.

In the struggle for power with other nations, France took on a new and far-flung empire. It was not like the empires of other powers which could people them, and had vast export industries to feed them goods and be fed by them. Of this curious colonial system something will be said later.

Finally, the new industrial France born of the World War puts the earlier periods in a somewhat different light. Not that the historical facts are altered, but different ones have become important. The new France must be either a heavy importer of coal or a great exporter of iron ore, of which she has nearly a quarter of the developed world supply, ranking first in Europe by a wide margin. Already second only to the United States in the production of silks, she has acquired the cotton and woolen mills of Alsace-Lorraine and become one of the great competitors in the textiles. It is now absolutely necessary to pay some attention to this new period in French industrial history in order to pick out the important facts about the earlier one; but both tasks are rendered extremely difficult by the shortness of the present phase and the peculiar, not to say abnormal, conditions surrounding its beginnings. The three outstanding ones have been suggested in dealing with Germany: the general dislocation of world trade, the situation arising from the retracing of the Franco-German frontier, and inflation.

French inflation after the war was much more gradual than German, and the appearance of prosperity correspondingly more drawn out.[1] A period of years must transpire, after

[1] The note circulation of 6,680,000,000 at the end of July, 1914, was backed by about 71 per cent of that amount in gold and silver, and the remainder in credits and securities. This flood of paper rose steadily to about 38,000,000,000 at the end of 1919, intermittently to 40,000,000,000 early in 1925, and then swiftly to over 56,000,000,000 in July, 1926, with a metal reserve only slightly higher than in 1914, even if the part deposited abroad, and not readily available was counted.

an enormous shift of resources from one power to another, before any very exact estimate of its significance can be made. This should be obvious from a backward glance at Germany as of 1871. Europe as a whole might become far more prosperous than in 1914, and yet never recover her relative economic importance in the world. Time and patience are required to find the basis of Franco-German cooperation most advantageous to both parties under the new distribution of resources and the changed marketing conditions. Finally, it is always advisable to be cautious about counting any apparent gains made during an inflation period until sure that ample time has elapsed for all the effects of stabilization to make themselves felt. The stimulus of artificially low prices (in gold) to foreign trade and manufacturing is nearly always false and temporary. France used her expectation of huge payments from Germany to reconstruct the industrial regions, among others, with new and far more efficient equipment. At the same time the inflation period in Germany was turning vast amounts into the physical form of enlarged and improved plants. Between them, they found themselves with more production facilities than the existing market required.

THE PASSING OF GILD CONTROL

Turgot, Controller General from 1774 to 1776, took steps to destroy the power of the gilds, but his efforts were only partially successful. His downfall in 1776 gave an opportunity to those who favored the retention of the gild monopolies to advocate their reinstatement with some success. The Revolution brought with it drastic legislation for repressing the gilds. The licensing of all craftsmen was made compulsory (1791). The Napoleonic Government, realizing the advantages which in certain branches of trade gild control offered in regulating production and distribution of victuals and other necessaries, was instrumental in 1801 in partially reëstablishing gild monopolies. But the day of the gild had passed. Despite these concessions, which were made largely

for the purpose of allowing the Government to exercise a more rigid control over the distribution of certain commodities and services, gild organization never again assumed a leading position in the industrial life of the country. Following the downfall of Napoleon, freedom to pursue a chosen trade was practically restored. The Printers' Gild, the last of the monopolies established by Napoleon, finally disappeared in 1870.

The French Revolution and Napoleonic wars cost France any advantages which she may have momentarily obtained by the commercial treaty with England in 1786. This treaty was especially encouraging to the glass and muslin industries. It affected commerce and manufacturing more generally, and though some provisions might have had to be modified, the move was sound in principle and the ultimate effects should have been good. Napoleon's conquests and the resulting blockade temporarily enlarged the market for some French goods on the Continent, but the net results were not encouraging. His efforts to encourage industry through the direct aid of the Government brought surprisingly small returns for a really impressive expenditure of thought, energy, and even money. A society for this purpose was organized and prizes offered by the Government for industrial inventions, one notable product of which was the Jacquard loom. Industrial exhibitions were also held, in the hope of stimulating interest in the newer mechanical devices.

These measures fell short of their intended mark, the need being less for general interest than for the establishment of conditions under which the machinery would pay. For example, the supply of cane sugar was cut off, creating a pressing market demand which crowned the attempts to establish a beet-sugar industry with considerable success. The chemical industry made some headway also, for similar reasons. Napoleon's economic ideas were astonishingly crude and erroneous for a man of his ability in many other lines. A study of this one factor in bringing about his failure would be interesting. He entertained some of the worst fallacies of deca-

dent Mercantilism, including the balance-of-trade theory in its crassest form. Even in setting up his famous Continental Blockade against England, he was indifferent to the idea of cutting off her imports, believing that she would ruin herself in paying for them if he could sufficiently embarrass her export trade. On the other hand, he tried to build up French industry by exorbitant tariff rates, which hindered imports and helped to cripple the whole economic system. France would have been safer with him at the helm if he had found time to read Adam Smith carefully — or even Turgot. His visionary scheme of organizing the Continent to shut out English manufactures broke against the strong and widespread demand for them, raising up more enemies against him than he could put down.

THE INTRODUCTION OF POWER-DRIVEN MACHINERY

As noted in Chapter III above, the Newcomen type of steam pumping engine was in general use in French mines in the eighteenth century. In the same period the French took the lead in developing silk machinery, and some large plants were set up, as in Italy and in England. Both the flying shuttle and the spinning jenny found their way across the Channel almost immediately after their appearance in England, and there was also some spinning by power on the eve of the Revolution. In the various mentions of "steam engines" then used in France, no distinction was generally made between the Watt and Newcomen models. Most of them were used in mining, and the presumption is that they were the Newcomen type of steam pump. The latter were built in France also, and there was thus no question of dependence upon England. As late as 1810 the total number of "steam engines" in the whole country was estimated at about fifteen, a probable figure for Watt engines and quite too low to include both types.

Although France had been a leader, if not the leader, in industrial concentration before the general introduction of power machinery, the spread of the real factory system there

was slow. The machine printing of cotton goods was introduced in the great Oberkampf mills in 1797. Silk remained almost entirely a putting-out industry in spite of being one of the very first to begin using power, as in the great Jubie mills of the eighteenth century. During Napoleonic times, cotton spinning became largely concentrated in the hands of big industrialists. These mill-owners often took over other processes, including weaving and printing. While this entailed a fairly complete industrial capitalism, even as compared with England, most of the weaving was put out in homes, only the processes which demanded power machinery being carried on by factory methods.[1] The existence of industrial capitalists like Ternaux and Richard-Lenoir during this period, with whole strings of factories in France, is proof that the processes were familiar, and that there was no want of enterprise to exploit them where they paid. Water was the great source of power everywhere, so the number of steam engines is of little significance.[2] The slow growth of the industry in France, as compared with England, must be explained in such general economic terms as suggested at the opening of this chapter, plus specific difficulties like the scarcity of raw material, the narrowness of the market, mistaken tariff policies, the dearth of hands with huge armies mobilized, and so on.

All the early steam engines were small, and the ones exported from England were doubtless below the average. The size is casually mentioned in several cases belonging to the Napoleonic period, and it is probable that most of the small number in France developed not more than 10 horsepower, the average being less than that. The 600 reported in 1830 may have had an average horsepower of 10, which would

[1] Ballot, Charles: *L'introduction du machinisme dans l'industrie française*, pp. 28 f. The other important source on the beginnings of machine processes in this industry is Lévy, Robert: *Histoire économique de l'industrie cotonnière en Alsace*. Ballot's is a general work, published in 1923, under the auspices of the *Comité des travaux historiques*.

[2] Steam furnished less horsepower to industry than water until after 1857. See the table on page 65 of the *Annuaire Statistique* for 1924.

make 6000 horsepower derived from steam in the whole country. Apparently the old Newcomen type, or *pompe à feu*, had entirely disappeared from the mines by that time. It is not safe to accept any figures before about 1830. English export prohibitions on machinery were not withdrawn until after 1825. The practice of smuggling, the premium which the import difficulties put upon the use of French machines even where decidedly inferior, and the particularly confusing element of the replacement of antiquated equipment in the mines warn us against trusting any estimates which could be made at this late date. A survey of 1847 placed the number of steam engines at 4853 and the total horsepower at 62,000 — or an average of $12\frac{3}{4}$ horsepower. At the end of the century, French industry was using about 75,000 engines, developing over $1\frac{3}{4}$ million horsepower. This marked a vast and progressive growth. Note, however, that the average size of the engines had hardly doubled in fifty years, and that 1900 is rather a recent date.

This suggests again a certain persistence of the initial peculiarities of French industry down through its whole course of development. Fairly small hand looms continue to weave goods of intricate and artistic design all over France to-day, Paris included. These devices are not "antiquated." On the contrary, they are perfectly efficient for the kind of work they do. In America we do not specialize in the types of goods which cannot be manufactured with power machinery. French industry is not comparable with American, German, or even English, merely in terms of size and quantity. There was nothing necessarily "backward" about the use of charcoal in making iron and steel by any country as long as it continued in the good fortune of possessing the wood.

GROWTH OF THE TEXTILE INDUSTRIES

Since the onset of the Industrial Revolution there has been a shifting "twilight zone" between hand and power-machine production, where the two types might compete. France

produced really wonderful linen in Flanders, Normandy, and Brittany in the eighteenth century by hand processes. After a temporary slump during the Revolution, this industry again became prosperous, but the power-driven spindle was gradually introduced, it being found that this merely cheapened the making of most grades of yarn without affecting the quality. Power machinery did not spread to linen weaving to any considerable extent until after 1850. It first began to penetrate the region close to the Franco-Belgian boundary, where ample coal supplies were available and the type of cloth manufactured lent itself most successfully to machine production. Normandy, and especially Brittany, kept on making their former grades by much the same processes as before, without feeling machine competition very seriously. Exports of linen yarn rose steadily after 1850, reaching a value of 15,000,000 francs in 1859, and 24,000,000 francs five years later. In the production of yarn or thread, power machinery was general, the direct competition being on the basis of flax production rather than method. Then the British began to compete seriously, especially with the machine-made linen, by marketing substitutes made partially or entirely of cotton. French linen production showed an absolute decline after the seventies. It was the hand-woven grades rather than those turned out by intricate machinery which survived. On the eve of the World War, nearly half the French looms employed in linen manufacture were of the hand variety. Mechanization took place rather in the cottons, which had usurped the place of certain grades of linen in the market. In the division of labor, France held her own best in the typically hand-made goods.

Wool spinning and weaving were distributed throughout the country at the opening of the nineteenth century, indicating the predominance of the independent-craft and putting-out types of organization. Some concentration was found in Rheims, Amiens, Évreux, Louviers, Sedan, and Roubaix — somewhat less in southern France. Power spinning and carding made more rapid gains than power weaving,

which was almost a negligible factor to the middle of the century. This was in contrast with England, where a profound change had taken place, as we have seen. The French manufactured many mixed textiles, combining wool and cotton, and also developed the worsted industry. Their foreign trade did not suffer greatly in competition with England, exports of woolen textiles increasing from 80,000,000 francs in 1838 to 396,000,000 in 1865.

France produced an extremely high grade of wool. She kept increasing the quantity, developing the best grades particularly. Up to 1835 she imported almost none. As the textile industry grew, she had to import more and more wool — half the amount consumed in the sixties and over seven eighths on the eve of the World War. Some of the wool was reëxported, representing a growth in foreign trade rather than industry and also a certain fastidiousness as to the grades which her peculiar market demanded. The worsteds made the most rapid advance, though the weaving of heavier textiles likewise made progress. Machine methods were extensively introduced where the patterns and the number of duplicate pieces warranted, but the hand loom continued to dominate a field all its own.

However much we may appreciate the peculiar place occupied by original and artistic design, and with whatever firmness we may reject quantity as the sole measure of industrial progress, we should be foolish not to recognize that the steady perfecting of machinery has left to hand work a decreasing fraction of the total market. This is true in terms of *value*, which is the one reliable measure in business. The manufacture of silk goods furnishes an illustration of how this has affected French industry. There is a narrow market at high prices for distinctive new goods of real artistic merit, and the function of creating them in the first place is an important one in the world. Out of 46,000 factories and workshops of the silk industry of twenty French *départements* in 1926, about 5000 were specialized to this type of production. Practically all of these latter used hand methods, and ma-

chine production was almost as uniform in the others. While the value of the output of these hand units was roughly proportionate to their number, the quantity was of course an extremely small fraction of the whole.

Since the element of fashion enters into the price of these fine, new materials, comparatively few pieces of any pattern will be absorbed by the first market, and the specialist does not arrange for mass production. The consumers soon shift to still newer designs which have been created in the meantime. But the really broad market in the contemporary world is at lower prices, and remains to be exploited after the wealthier, and perhaps more discriminating, buyers have moved on. Other manufacturers duplicate the product as nearly as possible by machine processes, and it is perhaps copied several more times with cheaper materials and methods. For example, a new type of printed silk, or silk mixed with metallic threads, comes into vogue, first made by a French firm. If other French manufacturers do not carry out the idea on a larger scale, through cheaper grades, foreigners will gather in the lion's share of the total profits. Furthermore, the machines are getting so highly perfected nowadays that they can do nearly everything but think. Machinery has usurped these successive markets right up to the first and smallest one, enlarging all of them, and even creating some.

Back of this is the long history of the draw loom, with its obscure origins in China. A type of it made the Damask or Damascus cloth, so highly prized in the Middle Ages. From there the loom came to Italy, and then to France. The general principle is simple. To weave intricate patterns, varying numbers of lengthwise or warp threads must be raised to allow the woof or cross-threads of different colors or textures to be drawn through. Several French inventors simplified the still tedious process in the eighteenth century. Jacquard's loom, patented in 1801, revolutionized it. Discarding the maze of pedals for manipulating the warp threads, he made it possible to control the most complicated designs automatically by a series of perforated cards. The industry

was quickly transformed. There were 10,000 Jacquard looms in use in France in 1824, 42,000 in 1832, and 57,500 in 1840.

All were hand looms up to 1860, when steam power was first applied. In 1866 there were a little over 5000 power silk looms out of a total of 120,000. The shift went on steadily, the actual number of machines decreasing slowly with the swifter increase in the capacity of the average one. Of 40,766 silk looms in 1914, all but 5413 were run with power. France's raw-silk industry was practically ruined by pests which appeared about the middle of the century. In place of an output of nearly 4½ million pounds at that time, about three quarters of a million are produced to-day, of the 13 millions used in French mills. Japan produces two thirds of the world's raw (natural) silk — 57 out of 85 millions of tons — and China and Italy most of the remainder.

France has lost her ancient leadership in silk production to the United States, which consumed more than twice as much natural raw silk before the war. The rise of artificial silk from its pre-war insignificance to more than twice the volume of the natural product in 1925 created new problems for the French. This material requires new methods, including different dyes, tending to cancel the advantages of an old industry. Of the 182.6 millions of metric tons produced in 1925, only 15.4 millions were consumed in French mills.

The greater part of the silk industry is in southern France, with Lyons as the center. Knit goods (including hosiery), are produced at Troyes, upholstery at Roubaix and Tours, lace at Saint-Quentin, Caudry, and Calais, and other silk products, notably mixed textiles, are turned out by other northern places. There are some silk mills in Alsace. The transition to power machinery behind a high tariff wall certainly points to a tendency in the new France to abandon some ancient peculiarities which are less profitable than of old. In some branches, such as solid-color silk hosiery, the machine is supreme. Due to the tariff, there is practically no foreign competition in the home market, but this makes for high

prices, which in turn affect the ease of placing the goods abroad. Continental tariff programs generally produce dumping in its characteristic forms to a degree hard for an American to appreciate — presumably because his domestic market is broader and it is easier for him to achieve the economies of mass production. It is considered normal for the average export prices to be lower than domestic prices, the argument being that the extension of the market leads to economies which in turn cheapen the goods at home even more than the amount of the tariff. This is plausible enough, reasoning purely on a national basis, but there are too many "ifs" involved for conclusive proof, one way or the other. From the standpoint of Europe as a whole, there is evidently a loss somewhere in a vast system of interference, with the avowed aim of artificializing territorial specialization.

The Peace of 1815 removed the physical difficulties of importing raw cotton, and the industry was soon flourishing behind a wall of protection. While the independent master and the putting-out system prevailed quite generally in the woolen, linen, and silk industries, the production of the cottons was carried on under essentially different conditions. Dependence upon foreign sources of raw material afforded opportunities from the outset for the establishment of power-driven mills. In the northwest, also in Alsace, where the cotton industry was highly developed, the power loom was introduced early in the century. Around Mulhouse, the number of spindles more than doubled between 1828 and 1848, and power looms assumed importance after 1830, although they did not predominate until 1870. Conditions were less favorable in other parts of the country, but on the whole the industry was remarkably successful. A threefold increase in production occurred between 1815 and 1840. The exports were valued at 66½ millions of francs in 1836, rising to 165 millions in 1850, thus considerably more than doubling in a decade and a half. While this did not match the growth of the industry in England, it was solid progress.

In the readjustment of the cotton industry after the loss of

Alsace-Lorraine in 1871, the districts around Lille and Rouen showed by far the greatest activity. The most significant development took place in the nineties, when the full force of the high protective tariff of 1892 exerted itself. This was true of many of the important French industries. The technique of spinning and weaving was rapidly transformed, especially in Normandy and around Lille. As early as the sixties, the hand loom had practically disappeared from Alsace, but it predominated much later in some other sections of the country. All told, France operated more than 110,000 power looms in 1912. The number of hand looms was probably less than a fourth as large, and their small average size made them a relatively small factor in the total output. The number of spindles in the same year was over 7 millions. These figures compared somewhat unfavorably with those for England, where there were more than five times as many looms and nearly eight times as many spindles.

Cotton textiles ranked next to silk in the export trade of France in 1913, with a total value of 385,500,000 francs. The cotton industry had gone through a period of slow growth in the late seventies and throughout the greater part of the eighties, incident to the general dislocation of that time the world over. English goods had found their way into the French market in spite of the comparatively low tariff of 1881, leading to the much higher one of 1892. Finally, the loss of Alsace-Lorraine in 1871 must not be forgotten. French textile products were of an exceptionally fine average quality, compared with those of competitors. Germany consumed, on the average, a much larger quantity of both cotton and woolen yarn, but a comparison of the value of the manufactured goods shows a much smaller discrepancy than the mere quantities would suggest.

Before the World War, France ranked fifth in the number of cotton spindles. She had (in round numbers) 7 millions, as compared with Russia's 8, Germany's 10, America's 28, and Great Britain's 56. The two million spindles transferred from Germany with Alsace-Lorraine made France third in

rank, but still left her far behind her two principal rivals. Especially since the war, some French economists and statesmen have expressed a good deal of agitation over the dependence upon the United States for raw cotton. Attempts have been made to develop cotton planting in the colonies. There is much land which seems suitable, for example in West Africa and Indo-China, but the effects of such a project on the required supply of cotton would be negligible for many years in any case.

COAL MINING

The increase in France's coal output during the Napoleonic period had been mainly due to the exploitation of mines located in territory which was lost in 1815. On the whole, the remaining deposits were not so well situated or so cheap to mine as those of Great Britain. Production was always insufficient to supply the home market, as indicated by the following round figures: [1]

Year	Production (millions of metric tons)	Consumption (millions of metric tons)
1820	1.	1.3
1850	4.4	7.2
1890	26.	35.
1900	33.4	46.8
1912–13	41.	61.

Some two hundred mines were put out of commission and more or less damaged as a result of the World War. Coal production dropped from around 41 millions of metric tons in 1912–13 to 27½ millions in 1914 and 19½ millions in 1915 (the first full year of war conditions). It was up to nearly 29 millions again in 1917, but fell off 2½ millions in 1918. Then

[1] Condensed from tables in Foville, A. de: *La France économique; statistique raisonnée et comparative*, p. 208, and Théry, E.: *Histoire économique de l'Angleterre, de l'Allemagne, des États-Unis et de la France* (1890–1900), p. 400, and the *Annuaire Statistique* for 1924, p. 55. Note how nearly constant is the percentage ratio between production and consumption for almost a century, in spite of a great increase in both figures, and of course of the actual amount of the shortage. France could always increase her production of coal to meet the rising demand, but the relatively high cost of doing so is reflected in the lag, which means imported coal.

Alsace-Lorraine was recovered, the mines of the Saar Basin were acquired (to balance the destruction of French mines), and the Germans were assessed 7 million tons a year, to be credited to reparations. Obviously, the figures after the war are not quite comparable with the earlier ones, quite aside from the economic crisis. Let us take the most important elements separately.

First, the two hundred damaged mines were back substantially to the pre-war level of productivity by 1925. Potentially, they were more valuable, as the plants and organization were much improved, especially with reference to handling by-products. Lorraine produced about $3\frac{1}{2}$ millions of metric tons before the war, and considerably more afterward (around 5 millions in 1924 — France is shorter of coal than pre-war Germany was, and inclined to emphasize this source more). The 9 millions or so of the Saar and the reparation payments in coal are not counted in France's own supply. After the Locarno Pact of 1925, restoring something like peace-time normality in Franco-German relations, a persistent agitation arose in Germany for the restoration of the Saar Basin. Ten years of French rule were still due under the treaty, and the mines had been definitely transferred, but the fact that the restoration of France's mines had required much short of the generation which had been predicted as necessary inevitably affected German feeling about the question.

Taking the boundaries of the new France as the basis of calculation, the average monthly output was as follows (in thousands of metric tons):

1913	3720
1921	2415
1924	3746

That is, production was back to the pre-war level in 1924 — and it continued to rise. France's total output of coal in that year was about 4 million tons more than in 1913. With anything like normal conditions restored in Europe, it should be at least 10 millions more, with considerable possibilities of

expansion. But the French need much more coal than they did. For one thing, they got two thirds of Germany's iron ore. The fact that this cannot be fired with the *kind* of coal near it and inside the French frontier was more or less related to the Ruhr adventure of 1923, and the vital factor in bringing about the Continental steel trust in 1926. One acute problem in the coal situation is the group of chemical by-products, so intimately tied up with potential war strength as well as with normal industry. By the close of 1926 France had developed about a third of her potential 9 million horsepower from hydro-electric sources, and become the first nation of Europe in this respect. She is much better off than she was in 1913, but still weak in coal. If Europe could be definitively pacified, this would be unimportant, as no nation can produce everything it needs in this age.

IRON AND STEEL

The growth of the French iron industry early in the nineteenth century was hindered by the relative scarcity of both iron ore and coke, and also by the distance which separated the two. As late as 1850 the iron furnaces were still largely using charcoal. This meant a wide distribution of the industry, which necessarily had to be established as close as possible to the forests where charcoal could be obtained cheaply. Production was somewhat increased during the Napoleonic period, but there was comparatively little change in the processes. Between 1812 and 1828 the pig-iron output was approximately doubled, with about the same increase during the next two decades. The figure for 1847 was 600,000 tons, as compared with a little over 220,000 in 1821. Coke made very slow headway against charcoal as fuel, the number of charcoal furnaces increasing until about 1840. Of approximately 470 furnaces in 1846, only 106 burned coke. It was not until twenty years later that the two became really comparable in importance.

In the early history of the French pig-iron industry, the influence of English experts and capital was considerable.

As in Belgium, the foreign element was fairly important during the whole first half of the century. The sudden and very remarkable growth in railway construction after 1845 (with the exception of the years 1848 to 1852) caused a heavy demand for the products of the iron mills. A good deal of the material was imported, however, as domestic manufacturers were not in a position to supply the demand. Gradually the French industry adjusted itself to the new conditions, and a period of expansion set in after 1852.

Extensive exploitation of the French iron ore deposits has taken place only within recent years. Some progress was made before the Franco-Prussian War, and in the years immediately following, but nothing to compare with the rapid advance which had been made in England and in Belgium. The annexation of Alsace and a large part of Lorraine by Germany meant the loss of important steel plants which had previously turned out a large percentage of the total French output. The chief loss lay in the retardation of the future of the iron and steel industry, since the vast phosphorous ore deposits of this region were not exploited until after the basic process was introduced (beginning with 1878). From 1860 to 1907 the annual production of ore increased but slowly. It was only after the latter year that really effective development began. The growth is suggested by the following condensed table:

FRENCH PRODUCTION OF IRON ORE, 1881–1913

1881–1890 (ten-year average, in thousands of metric tons)	2,934
1891–1900 (ten-year average, in thousands of metric tons)	4,206
1901–1910 (ten-year average, in thousands of metric tons)	8,547
1911–1913 (three-year average, in thousands of metric tons)	19,258

Due to the war and the German invasion, the figure dropped from 21,918 in 1913 to 11,252 in 1914, and to only 620 in 1915, the first full year of hostilities. The average for 1915–18, inclusive, was 1502. The part of Lorraine which Germany had taken in 1871, and now returned in 1918, had alone produced 21,000,000 metric tons of ore in 1913, or two thirds of the entire German output. This is practically equal to

the entire pre-war production of France, nine tenths of which came from the part of Lorraine left to her in 1871. When we reflect that the iron of the Saar Basin, of which France got control after the war, comes from another part of what is really one field, the importance of this concentration in the hands of one power becomes apparent. In fact, the control turns out to be more or less fictitious in economic terms, and the apparent importance of its being vested in one power much greater than the actual one.

Ore deposits, and even ore on top of the ground, are not the same thing as iron and steel. The quality and location of the coking coal in the Ruhr region make the Lorraine ore more valuable to Germany than to France, especially in view of the developed lines of communication and plants. The same is true of the Saar, of much of the Luxemburg ore, and of some of the Belgian. If the coal production of German Alsace-Lorraine as of 1913 was much below what it might have been, on the other hand, the iron ore output was enormously higher than it would be if strictly cut off from Germany — that is, economically. The events of the disturbed period just after the war indicated that the Germans could still make iron in the Ruhr from imported ore more cheaply than the French could produce it in Lorraine with imported coke, if the two were artificially cut asunder by hampering communications across a political frontier. How great the disappointment of many politically minded Frenchmen was may be indicated by leaving the ore figures aside and taking those for raw iron and steel instead. Repeating part of a table given in the last chapter, the 1913 situation was roughly as follows:

French and German Iron and Steel Output, 1913
(Round numbers, in millions of metric tons)

	Germany (Pre-war boundaries)	France (Pre-war boundaries)
Iron	17	5
Steel	17	5

Let us now take the post-war boundaries, giving similar round numbers for both pre-war and post-war production within them:

THE MAIN EUROPEAN SOURCES OF IRON AND STEEL, 1913 AND 1925

A. IRON

(Round numbers, millions of metric tons)

YEAR	GERMANY (present extent)	FRANCE (present extent, including Alsace-Lorraine and Saar)	LUXEMBURG	BELGIUM	ENGLAND	TOTAL
1913.....	10.9	10.4	2.5	2.4	10.4	36.6
1925.....	10.1	9.9	2.3	2.5	6.3	31.1

B. STEEL

(Round numbers, millions of metric tons)

YEAR	GERMANY (as above)	FRANCE (as above)*	LUXEMBURG †	BELGIUM	ENGLAND	TOTAL
1913.....	11.7	9.	1.2	2.4	7.7	32.
1925.....	12.2	9.	2.	2.4	7.5	33.1

* Subtract about 1.4 for iron and 1.5 for steel to get the net French production within the political boundaries. The round figures for France appear below.
† Production was extended about 50 per cent in Luxemburg during the war period.

If we take out the Saar Basin to get at France's position within her political boundaries, it appears as though production was only a little below the 1913 level a dozen years later in the territories involved, and that she had actually consolidated the gains made on paper in the peace treaty. That this is not the case is immediately seen by comparing her position with Germany's. France got the source of 21 out of 28 millions of tons of Germany's pre-war ore, not including the Saar, which means some 3 millions more. Leaving this last item out, in spite of the fact that it was taken off one side of the count and added to the other, it appeared at a glance

as though France was to have about 42 millions of tons of ore and Germany 7. If we moved the figure for the Saar over, the ratio would become approximately 44 to 4. But Germany produced more iron and steel in 1925 than France did, and her quota, as assigned under the *Union internationale de l'acier brut* of 1926 was about a third larger. She had the geographical position, the experience, and the mills.

The German producers of ceded Lorraine were indemnified, and much of this money was spent in the enlargement of plants still within the frontiers of Germany during an inflation period when it went very far. This entailed a loss of skill, experience, financial power, and market contacts for Lorraine, as well as an enlargement of the German industry to substantially its pre-war capacity. Luxemburg was a more serious competitor than formerly. Japan had greatly enlarged her industry incident to the war, and many of the lesser European powers had done likewise. Finally, the United States, which had produced about 5 million metric tons less iron and a shade less steel in 1913 than the five European nations of the preceding table put together, turned out nearly 5 millions more of iron and 15 more of steel in 1925. This does not mean that we took their market, but rather that we were not drawn into the war until late and, far also from the later crippling economic struggle, we managed to save something from the collapse of a period of magnificent growth.

Europe found her capacity for turning out steel enormously greater than before the war, and the market hardly capable of absorbing even the old quantities. With about a pre-war equipment, Germany could place less than two thirds as much, though she needed to find export markets more than ever before, to cover reparation payments. Partly due to lack of foresight on the part of the Allies in drawing up the shipping provisions of the peace treaty, and partly because of inflation, she threw much of this manufacturing power into ships, at a time when they were rusting by thousands elsewhere. The German Government was poor while the mark

was rapidly sinking, so the market for such things as railway material was bad, and continued so under the economies of the Dawes Plan. Moreover, disarmed Germany lacked the steadying factor of a call for military and naval supplies from the Government. Her Russian and Balkan markets were also below par, due to low purchasing power. The location of what market existed was not so important as the fact that the European steel producers had either to struggle for what there was or divide it up, and also attempt to build it up. Late in 1926, the greater Continental producers chose the latter course.

The Continental Steel Combine did not solve the problem immediately, or expect to. It had to acknowledge at the outset that its members possessed much more equipment than the market warranted. The remaining Continental steel producers, and above all Great Britain, should be in it in order to regulate even the European output. To organize world production into a unit would be a problem of quite a different order. With the exception of Russia, the domestic markets of Europe would not seem to be susceptible of the expansion which American mills may still expect, and Japan's peculiar situation in the Orient makes her a little less inclined to fix limits at all rigidly. Americans tend to underestimate the vital necessity of international economic cooperation in Europe, and Europeans conversely to overestimate its immediate importance to the United States, each continent naturally seeing its own situation best. In this matter of steel, American aloofness must affect the possibilities, or at least the difficulties, of coöperation among European producers. On the other hand, a considerable success there might easily give Americans a much more vital practical interest in international coöperation — and this is true of other things as well as of steel.

Returning to the nation as a unit, and thus putting aside the post-war shift in boundaries, it is apparent at a glance that France's importance in iron and steel increased enormously during the first quarter of the twentieth century. The

production of pig iron rose from 2¾ millions of metric tons in 1900 to a little over 5 millions in 1913 and 8½ millions in 1925; of steel from 1½ millions in 1900 to nearly 5 millions in 1913 and about 7½ millions in 1925 (not including the Saar Basin). This growth, before and after the war, was supervised by the *Comité des Forges*, the organization and concentration of which has fully kept pace with the industry.

MACHINERY AND SHIPBUILDING

Various peculiarities of France in respect of her requirements as to machinery have been suggested in the above sections. Her railway material before the World War was much lighter, on an average, than that of Germany. Hand looms, running at comparatively low speeds, are reflected backward in the machinery which constructs them. Attention is called again to the low average horsepower of steam engines in France, less than 13 in 1847, and only about 24 at the end of the century. To the economist, machinery represents not merely, nor mainly, a group of scientific and technological problems, but rather a means for providing the market with those goods which it will absorb at a profit to the organizer of production. Thus, when he turns from minute details to seek for general tendencies, his sound impulse is to look backward from the market to its reflection in technique and tools — since this is just what the entrepreneurs have done in setting up their plants. This is not so simple as it looks. Besides the domestic market, which has been protected in the case of France, there are various foreign ones in which competition with other producers is more direct. It is always felt at home in certain goods which are produced in insufficient quantities to meet the demand or not at all. For example, before the war most of the cycle parts, such as wheel-hubs, were of British manufacture.

Five million metric tons is a considerable quantity of steel. We are not mistaken in supposing that pre-war France, with such an output, had a considerable machinery industry, including machine tools. The electro-chemical and electro-

metallurgical plants alone used some 200,000 horsepower in the opening years of the twentieth century, nearly four times as much in 1914, and about ten times the first figure a decade later. The imports of machine tools and machinery were over two thousand metric tons by weight on the eve of the war, and the exports slightly larger. A decade later the imports had fallen off slightly and the exports nearly doubled. This is partly a matter of growth and partly one of France's improved position in the steel industry as a result of the outcome of the war. That French firms bid successfully against foreign ones for such contracts as the huge Cernavoda bridge over the Danube in Rumania, decades ago, is ample evidence that the country was not to be dismissed with a shrug even in the production of heavy structural steel. There were two industrial Frances, the second being merely emphasized by the war, as well as by the trend of development in methods the world over.

Perhaps the most suggestive illustration is one a little to one side of the main branch of the machinery industry. A dozen years after the outbreak of the World War, the largest manufacturer of automobiles in Europe was the company founded by André Citroën. Foreigners had correctly regarded the pre-war French motor vehicle as a high-priced product, carefully assembled with an amount of hand work and non-automatic machining which was rare in Europe and unknown in America. Citroën served his apprenticeship in the old Mors factory, which was of that type. During the war there was much emphasis on the simplification of processes and speed of production, with a decreased stress upon details, and afterward many manufacturers went in for a cheaper product which would nevertheless be solid and practical. Citroën's scheme was conceived before the war, but not launched until immediately after the peace. Without going into his methods in detail, it is safe to characterize them as an "Americanization" of the industry to a degree found nowhere in Europe outside of France. There is more hand work than in an American plant, the cost of labor being

less in Europe. Petroleum products being higher-priced than in America, the design emphasizes much lower horsepower and greater fuel economy. In standardization of parts and the use of handy accessories, the idea is the same.

There is no broad field of manufacturing where the advantages of territorial specialization are greater than in machinery, and few in which Europe has done so little to reap them. In spite of the difficulties raised by tariff legislation, particularly at that time, machinery was the fourth item in French exports to Germany in 1925 and third in German exports to France.

By the middle of the nineteenth century the English merchant marine, with a total tonnage of about 3,565,000, was more than five times as large as that of France. Changes in construction — the substitution of iron and later of steel for wood and of steam power for sails — put the French at a further disadvantage. On the surface it might appear that the French Government policy of granting bounties would have materially aided the shipbuilding interests. But France placed import duties upon various materials which entered into ship construction, with the effect of increasing costs to a degree which offset the bounties and hindered the development of the industry. The result was that, while French yards increased the tonnage constructed, a fairly large percentage of the growing merchant marine was purchased abroad.

France had the second largest merchant marine in the world in 1880. By 1914 she had dropped to fifth place. During the decade 1895–1905 there was a small improvement of 7 per cent; but at the same time the merchant fleet of Great Britain increased 13 per cent; of Italy, 51 per cent; the Netherlands, 68; Germany, 78; the United States, 79; Russia, 115; Denmark, 129; Norway, 137; and Japan, 270. On the eve of the war France had about 500 steamers and 400 sailing vessels, with a total tonnage of around 1.4 millions. That of her steamers was surpassed by a single German company, the Hamburg-American Line. The submarine took a

heavy toll of French ships — around a million tons — and France's industries were so strained by other needs that she still further prejudiced her relative post-war position by allowing her allies largely to take care of shipping needs. In spite of vessels taken from Germany and some building, the situation continued to provoke serious thought, and some alarm, in France after the war. Naturally, those minds in which world commerce and empire are associated feel the most concern, as it is not comforting for a Frenchman to think where his country would have stood between 1914 and 1918 without the help of foreign ships, including navies. According to Lloyd's Register, France had 3½ millions gross tons of shipping in 1925, as against slightly less than 2½ millions in 1914, or an increase of about 50 per cent.

DEVELOPMENT OF MEANS OF COMMUNICATION

The construction of well-built roads began in France somewhat earlier than in other countries on the Continent. The efforts of Napoleon to build an adequate network of roads may be regarded as the beginning of the important changes in transportation which were to occur later in the century. It must be emphasized, however, that the energetic steps then taken were largely the result of military policy. At the same time the self-sufficiency of these districts was now partly broken down, and the products of distant sections of the country began to be marketed over a much wider territory. Canal construction had begun even earlier, so that by the second decade of the nineteenth century some parts of the country were fairly well provided with transportation facilities.

In railway construction, Continental Europe was somewhat behind England, and this was notably true of France. The Stockton and Darlington and the Liverpool and Manchester lines were in operation and others were either under construction or being projected long before railways were seriously thought of in France, in spite of the need for more rapid means of communication. The first locomotive was brought to France in 1832, and the successful operation of a

short line between Lyons and St. Étienne marked the beginning of railway construction; but as late as 1841 France could claim a total of only 360 miles.

Throughout the Continent the question of a settled railway policy received early consideration, especially in Belgium, where a program for the construction of government-owned railways was formulated fairly early. In France the same question attracted public attention. Undecided as to the best course to follow, the Government adopted several expedients. Of the greatest importance was the plan formulated early in the forties whereby the Government aided in financing the railways by undertaking the building of the roadbed, which was to remain in the hands of the State. The Government also constructed the necessary bridges and tunnels, but chartered companies were left to lay the tracks and provide the necessary rolling stock. In this way it was hoped to encourage the development of a well-planned railway system which in time would connect all of the important centers of population with Paris. Some progress was made in the execution of this formidable program even before 1848. But political and financial obstacles were insuperable. The Government was compelled to relinquish its original policy, but maintained a general supervision over railway construction.

In the second half of the century railway-building was fairly continuous, interrupted only by the forces that interfered with industrial expansion generally. In place of the extensive financial assistance which the Government had earlier hoped to give to the railways, it was possible (1859) merely to guarantee the interest on the indebtedness of some of them. Yet, by 1860 France could claim a total of 9167 kilometers. This rose to 29,839 by 1885, to 38,109 in 1900, and to 40,933 in 1913. This dropped to a little over 36,000 for the war period, and the total, including the annexed territories, was a little over 50,000 in 1920. In miles, this means about 25,600 in 1913, 22,400 during the war, and a little over 31,000 in the new post-war France.

It should perhaps have been remarked earlier that mileage is not an ideal measure of either the actual or the relative efficiency of a railway system. The ton-miles and passenger-miles, as compared with other countries, would be too intricate for use here. Quite aside from the weight and capacity of the rolling stock, the mere question of the average speed of trains is a needed corrective for mileage figures over long periods. For example, the average speed of French trains quadrupled between 1835 and 1905. The whole French system of internal transportation suffers from too much concentration upon Paris, due largely to its beginnings before the economic life of the country developed as we now see it. This has been partially corrected with cross-lines and strategic railways back of the eastern frontier, but it remains a fault. In pre-war France there were also more than 7000 miles of navigable waterways, with other important canal and canalization projects under way, and these also cut across the radial pattern of the railways in some cases.

The Government early provided for the transfer of privately owned railways to the State, giving charters only for definite periods of years. Ultimately the French Government may thus become the sole owner of the entire system. The state (*État*) system consists chiefly of the lines of the Western (*Ouest*) Company, taken over in 1908. This serves a country which is mainly agricultural, the lines were fairly expensive to build, and the competition with the Seine traffic to the Channel ports, as well as of the coasting trade between Nantes and Bordeaux, has further increased the difficulty of making the government-owned lines pay.

A tremendous amount of work has been done during three centuries to canalize French rivers, which are generally small, shallow, or swift, and to connect the whole into a system of inland waterways. On the eve of the World War there were about 7000 kilometers of improved natural waterways and 5000 of lateral and joining canals — in miles, about 7460 altogether. This system carried 38 million tons of merchandise annually before the war, as compared with 190

millions on the railways, or a fifth as much. The port of Paris alone handled 13 million tons of this traffic by water, putting it well ahead of the seaport of Marseilles in terms merely of the volume of business, and giving it three times the tonnage of the seaport of le Havre. These comparisons must not be taken too seriously, as the value per ton of the merchandise entered and cleared in the port of Paris was much lower, being largely local trade.

CONCENTRATION OF POPULATION AND OF CAPITAL

The rapid concentration of population in urban communities which characterized the industrial history of England after the opening of the nineteenth century did not appear in France to any marked degree until after 1850. Concentration in a few cities of political and commercial importance dated from much earlier, of course. Under the system of economic organization which prevailed during the first half of the century, a wide territorial distribution of skilled laborers was possible. The rural population was still about three fourths of the whole in 1850. The extent of urban growth can be visualized in the following table of the population of ten important cities:

POPULATION GROWTH IN TEN FRENCH CITIES, 1789–1851 [1]

CITIES	1789	1821	1851
Roubaix	7,000	9,000	35,000
Rouen	65,000	87,000	100,000
Le Havre	15,000	17,000	29,000
St. Étienne	9,000	26,000	36,000
Nantes	65,000	68,000	96,000
Toulouse	55,000	52,000	93,000
Lille	50,000	64,000	76,000
Bordeaux	83,000	89,000	131,000
Marseilles	76,000	109,000	195,000
Lyons	139,000	177,000	149,000

[1] Foville, A. de: *La France économique; statistique raisonnée et comparative*, p. 19.

Note that Roubaix, St. Étienne, Lille, and Lyons, at least, may be considered industrial places. That Lyons did not grow more rapidly must be set down largely to the actual decentralization of the silk industry. As already noted, the small workshop has shown an extraordinary tenacity in France. Of a total of 575,000 establishments no later than 1896, nearly 535,000 employed a working force not in excess of ten persons. This type of plant was overshadowed somewhat more rapidly during the first quarter of the twentieth century, for reasons some of which have been discussed earlier in the chapter.

The general tendency of heavy industries to concentrate at the points where the conditions of transport and power are most favorable has been visible in France in our century. That all French industry must do likewise does not necessarily follow. Somebody is going to make certain handicraft products. The small electric motor has acquired a remarkable vogue in France, where it is peculiarly adapted to combat overcentralization. There are none too many Frenchmen in a country with vast agricultural wealth, so that pressure is still unlikely from that direction, as in the past. A strong spirit of nationalism rejects the idea of bringing in too many Italians or Spaniards unless they are willing to become naturalized, to which process, on any vast scale, their Governments oppose obstacles. It is hard to see where the urban population would come from for industrial concentration at any dizzying rate, and not very clear to many minds just how the majority of French families, now living in villages, would profit by it.[1]

[1] French industrial organization did not require the elaborate mechanism for handling unemployment found in Germany, and the problem of social insurance has been simpler. An Employers' Liability and Workmen's Compensation Act of 1898 made all industrial employers responsible. Industrial insurance of this type has been almost universal in France for many years, and may be taken out with either private companies or the State. A pension act for the aged and the permanently incurable was passed in 1905, the cost to be borne by the *communes*, the *départements*, and the State. At the end of 1921, there were over 600,000 people registered for such relief and the cost was 158,989,000 francs (paper), not a very large increase over the 1912 figure of 55,487,000 francs (gold). The French Old Age Pensions Law of 1910 called for

LESSER INDUSTRIES

Industries are particularly hard to force into any rigid classification in a rich agricultural country like France. Some of them, like flour milling and sugar refining, are closely allied with agriculture, and do not export much. The wine industry is usually classified under agriculture in French books. The distilling of *liqueurs* is not in itself a major industry, such as steel or the textiles, but France is a large producer of grain and beet alcohol — over 57 million gallons a year. Even that figure leaves distilling in a secondary position, as compared with sugar, of which France is the fourth producer in the world.

There are a good many industries like this, important but not in the first rank. All the chemical plants put together employed about 100,000 people before the war, and have grown somewhat since. Germany's potash monopoly was founded on deposits in Alsace and also at Stassfurt in Prussia. Their output was apportioned before the war, and controlled by a syndicate, but the Alsatian field is much the more important in total resources. Mulhouse is the center of the industry. An elaborate Franco-German accord, signed in December, 1926, provided against invasion of each other's markets and fixed export quotas so as to end competition. Among the other important chemical products of France are sulphuric and nitric acids, synthetic nitrates, various calcium and sodium products, and phosphates. Important deposits of phosphates are found in Tunis, Algeria, and Morocco, where they are extracted and sent to France for preparation. Progress in the dye industry has been slow but determined. For it really to pay, it must be linked up with innumerable other chemicals and by-products, and the technique of many single processes is also extremely complicated and delicate. The coal-tar derivatives are only the center of a vast complex,

contributions from both employer and employee, to which the State added something, the amounts varying with the cases. People like independent artisans, who were not compelled to insure, might do so voluntarily. The total number registered at the end of 1922 was 7,701,948, a large percentage of those eligible, but slightly fewer than in 1914.

and the nation which wishes to compete seriously in the single field of dyes must have a pretty well-rounded and quite highly developed chemical industry. So important did this prove to be during the war that France, like many other nations, emerged with a determination to achieve it even at considerable trouble and no little initial loss. The Germans were the great pioneers in this field, especially the *Badische Anilin und Soda Fabrik*, which in 1925 became the center of the whole German dye industry, organized in a single company as the *J.G. Farbenindustrie Aktiengesellschaft*, with which nothing in France really compares.

French pharmaceutical chemistry is also considerably developed, the *Poulenc* and *Usines du Rhône* products, among others, being known around the world. The foreigner is often a little startled at first when he presents a physician's prescription and is handed out a rather gaudy sealed carton with the manufacturer's name extremely conspicuous upon it. French medicine and French law furnish the explanation. The former emphasizes a comparatively small number of standard remedies for use in ordinary practice, out of the vast collection whose properties must be known by the physician for emergencies and constantly experimented with and extended in the great laboratories. Since Revolutionary times, the law has been extremely rigid about the employment of drugs which might be dangerous to the citizen, and quite conservative about multiplying the number of useless remedies. Pharmaceutical preparations and the processes of manufacturing them are not protected by the patent laws as in most other countries, the original idea having been to prevent monopoly prices — a "commercialization of medicine." The expense of maintaining adequate laboratories, now that a stage of enormous complication in chemistry has been reached, makes this provision quite useless against monopoly, and manufacturers complain that it merely hampers the growth of a national industry.

Other examples of secondary industries are pottery, glass, paper, leather, and leather goods (including gloves). Clock-

making is a winter occupation in the mountains of Burgundy, Savoy, and Alsace. Toy-making is carried on under similar conditions, and there is also some diamond-cutting and other work in precious stones in the Jura Mountains. Many of the millions of "Paris articles" are manufactured in the surrounding region. These include some goods which are both attractive and useful, besides those which merely prey upon the holiday spirit of the visiting provincial or foreigner.

COLONIAL EMPIRE AND "TARIFF ASSIMILATION"

Historically, two French colonial empires must be considered, the first ruined by the eighteenth-century wars and the Revolution, the second beginning more or less by accident with the conquest of Algeria after 1830. Saint-Domingue (now Haiti), which was finally lost under Napoleon, was the veritable jewel of a tropical empire in the West Indies, of which only unimportant fragments now remain. In the eighteenth century two thirds of the external commerce of France was with her colonies. Just before the World War the figure was a trifle more than one tenth, having risen from about one seventeenth since the proclamation of tariff autonomy for Algeria in 1866. The eighteenth-century colonial empire was constantly in the back of the French minds occupied with creating a new one a few decades later, at the same time continuing to administer certain fragments of the old.

Arthur Girault[1] who is probably the foremost authority on France's colonial policies, summarizes the ideas on the subject under three heads: subjection, autonomy, and assimilation. Political autonomy has carried with it tariff autonomy, and a policy of assimilation tends to work through "tariff assimilation," by which M. Girault means the attempt to treat "colonial territory as a part of the national territory."

[1] *The Colonial Tariff Policy of France*, printed by the Oxford University Press in 1916 for the Carnegie Endowment for International Peace. His great work is the *Principes de colonisation et de législation coloniale.* The first edition (1895) was in one volume, the number increasing to five in the fifth edition (1926), the fourth volume (on Algeria) being published in January, 1927.

This tariff policy, he declares, "has twice triumphed in France because it was the logical consequence of a principle." First the free-trade ideas of the Physiocrats triumphed in the French Revolution. Then came Napoleon, who reëstablished slavery and colonial exclusion, and lost the oversea empire partly as the result of a "monstrous attempt at economic isolation." A policy of "mitigated exclusion" fitted in with the era of protectionism which followed. When it was decided in 1834 to keep Algeria, a new problem was created — an entering wedge of favoring provisions which developed tariff policies along the general lines of their previous evolution. The Second Empire (1852–70) established the principle of autonomy, which worked very well with the comparatively low tariffs of this period.

The mere fact that the Republic which still exists was then set up may be put down as a minor and indeterminate factor in the course of development taken by the vast economic empire. A long and severe business crisis began in 1882, bringing with it a wave of protectionist enthusiasm. Parallel to the working-out of this new economic policy toward the outside world went the growth of the empire, until at the outbreak of the World War it had many more people than France herself, and covered twenty times as much of the earth's surface. As the French raised their tariff wall, thus tending to throw them back upon their home market as well as to protect it, the question of its boundaries became acute. "To assimilate" the colonies into it meant to raise tariff walls there also — as low as possible on the side of France and as high as practicable elsewhere.

It was the high tariffs of 1892 which brought the practical problems into the field of immediate action,[1] though earlier

[1] Girault, *The Colonial Tariff Policy of France*, chap. v, especially p. 94 f. A glance through the mass of technical material on the policies under the Third Republic, covering over 200 pages of this work, will suggest the reason why any considerable detail is impossible here. There is a good brief summary of the economic life of the colonies in Busson, Fèvre, et Hauser: *La France et ses colonies* (1920), pp. 499–686, with bibliographical suggestions. Girault's volume in the Carnegie Endowments French series, promised for 1927, will deal with the

regulations had paved the way. Algeria is still treated as a half-assimilated colony, though politically speaking it is not a colony at all. Tunis and Morocco have a nominal independence as protectorates, with their own tariff systems, worked out under French "advice," to fit in with that of the protecting country. They are under the Foreign Ministry instead of the Colonial Ministry (established in 1894), and there has been endless trouble in connection with their trade with Algeria (whose Governor-General is under the Minister of the Interior), as well as with the colonies proper. Thus there are three more or less distinct systems of control in the oversea possessions. Algeria, the protectorates, and the colonies are usually dealt with separately in France's commercial treaties.

After the creation of a special Ministry for the Colonies in 1894, "tariff assimilation" became a looser and more general policy than had been envisaged in the purely academic and logical stage. Tariff autonomy had been discredited by abuses, and did not fit the new European system of economic nationalism, but a modified form crept back under the name of "tariff personality." Each colony is allowed to have certain peculiarities within the general aims, which are watched over by the Colonial Ministry in Paris.

North Africa feeds the milling industry of southern France, and to a lesser extent certain others, such as slaughtering and packing. French industry enjoys a threefold advantage in that market. First, the mere fact that the administration is French and much of the private business either French or tied to France financially swings many contracts. Second, tariff legislation in the two protectorates, drawn up under French "advice," undoubtedly makes a difference. Finally, France is really close to North Africa, and enjoys many economic advantages on account of the ease of communication. Some of the other territories are not so satisfactory as exten-

war and post-war periods. Augustin Bernard has done this very well for North Africa in chapter II of his volume in the same series: *L'Afrique du nord pendant la guerre* (1927).

sions of the market for French industrial products. Indo-China is relatively close to China, Japan, and India, which tend to take her heavier agricultural produce, such as rice. This colony is also in the British, Dutch, and Japanese lanes of maritime commerce. Besides taking manufactures of other than French origin, it has shown a decided tendency to build up industries of its own, notably textiles.

In 1913 France's trade with her empire was roughly one eighth of the whole of her external commerce. All these possessions put together were less important as a market than the United Kingdom. Their value as potential manpower in case of war goes without saying. There is little French blood to spare, and these oversea subjects remain largely alien in language, customs, and religion. The tariff-assimilated colonies — three fourths of the whole in terms of trade in the twentieth century [1] — have been almost uniformly dissatisfied with their lot, and the fraction left unassimilated as uniformly contented. As Girault remarks,[2] "assimilation" is a nice word for a mild form of the ancient French policy of *subjection*, the chief distinction being that protection has taken the place of prohibition. A tariff impediment to trade in Europe may hurt some competitor more than it does the framer, but any distant colony to which it is applied is the main sufferer. To shut out Chinese, or even Japanese, goods from Indo-China means to raise prices, cut consumption, and hurt Indo-Chinese trade. The exclusion of English and German goods may even hurt French trade, where the French merchant can sell the foreign product and not the domestic one at the prices asked. Finally, to hamper British, Dutch, and German commerce may rebound upon French industry, whose products they would be willing to carry. China will use more French goods the freer trade is with Indo-China. The net result of restrictions to commerce, where they substitute long hauls and high prices for

[1] Some, especially in Africa, had to be left out (non-assimilated) because of standing international agreements. The list of assimilated colonies was extended, but never made complete.

[2] *Op. cit.*, p. 282.

short hauls and low prices, is to keep the colony poor in order that nobody may share in its prosperity.

Protectionism in the contemporary world is used ostensibly for the purpose of building up home industries. Its defense is that the good it does in this way outweighs any injury to trade. When its walls are erected piecemeal around the world, however, trade and transport inevitably become the big factors, and it reminds us more and more of an older type of Mercantilism.

SUGGESTIONS FOR FURTHER READING

Annuaire Statistique (*Statistique générale de la France*).

Arnauné, A.: *Le commerce extérieur et les tarifs de douane.*

*Ballot, Charles: *L'introduction du machinisme dans l'industrie française.* (Fasc. IX, *Comité des travaux historiques, section d'Histoire moderne et contemporaine,* 1923).

Bourgin, G. (ed.): *Le Régime de l'industrie en France de 1814 à 1830.*

*Brooks, A. H. (See readings for previous chapter.)

Busson, H., Fèvre, J., et Hauser, H.: *La France et ses colonies,* chap. XXII and all of the *quatrième partie* (a short summary of colonial geography and economic development.) An elementary class book, but useful.

*Clapham, J. H.: *The Economic Development of France and Germany, 1815–1914,* chaps. III, X. (Consult contents for special topics.)

d'Avenel, G.: *Le Mécanisme de la vie moderne.*

——— *Découvertes d'histoire sociale.*

*Engerand, F.: *Le fer sur une frontière.*

Fontaine, Arthur: *L'Industrie française pendant la guerre.*

Foville, A. de: *La France économique; statistique raisonnée et comparative.*

Gibbins, H. de B.: *Economic and industrial Progress of the Century,* chaps. VIII, XIII, XIV, XVII, XXVIII, LV.

*Gide, Charles (ed.): *Effects of the War upon French Economic Life.*

*Girault, Arthur: *The Colonial Tariff Policy of France.*

Godart, Justin: *L'ouvrier en soie.*

*Landry, A.: *Notre commerce d'exportation.*

Levainville, J.: *L'Industrie du fer en France.*

Levasseur, E.: *Histoire des classes ouvrières en France après 1789.* 2 vols.

——— *Questions ouvrières et industrielles en France sous la troisième République.* Especially pp. 27–166.

Levine, L.: *The Labor Movement in France.*

Lévy, Robert: *Histoire économique de l'industrie cotonnière en Alsace.*

Liesse, A.: *Evolution of Credit and Banks in France from the Founding of the Bank of France to the Present Time.*

Marshall, Alfred: *Industry and Trade,* book I, chap. VI.

Meredith, H. O.: *Protection in France.*

Ogg, F. A., and Sharp, W. R.: *Economic Development of Modern Europe*, pp. 204–11. (*Passim* in the section [part v] added after the World War.)
Olivier, M.: *La Politique du Charbon, 1914–1921.*
Pupin, R.: *La richesse de la France devant la guerre.*
Rapport général sur l'industrie française. 3 vols., 1919. (An important government publication.)
Sée, Henri: *La Vie économique et les classes sociales en France au xviii^e siècle.*
——— *L'Evolution commerciale et industrielle de la France sous l'ancien régime.*
——— *Economic and Social Conditions in France during the 18th Century*, chaps. viii–xiii.
Tarlé, E. V.: *L'Industrie dans les campagnes en France à la fin de l'ancien régime.*
Théry, E.: *Conséquences économiques de la guerre pour la France.*
*Weill, G. J.: *Histoire du mouvement social en France (1852–1924).*

Note. Besides the bibliographical suggestions at the close of the last chapter, it should be noted that the regular and special publications of the United States Department of Commerce, Bureau of Foreign and Domestic Commerce, contain an enormous amount of current material on European countries. Much of this is in terms of American weights and measures, making it particularly easy to handle. The first part of the *List of References in Economics 2*, published by Harvard University and revised from time to time, is the best simple general bibliography of European economic history since 1800. There are some useful appraisals in Professor Henri Sée's article, "Recent Work in French Economic History," in the *Economic History Review*, vol. i, pp. 137 ff. (January, 1927).

CHAPTER XI

COMMERCIAL DEVELOPMENT SINCE 1800 — GREAT BRITAIN, FRANCE, AND GERMANY

CHARACTERISTICS OF THE PERIOD

A LONG course of historical development may culminate in such a volume of change within a few decades as to constitute almost a revolution. If the term "Industrial Revolution" is to continue in use, the safest and most conservative meaning to give it is the shift from the earlier domination of industry by commerce to the domination of commerce by industry. This had largely taken place by the middle of the nineteenth century. Extreme caution is necessary even if the term is used in this restricted and rather definite sense. We start with a predominantly commercial organization of business, and large-scale industry develops with the expansion and intensive development of national and international markets. The whole series of economic changes involved is also inextricably bound up with improvements in transport facilities. To separate industry from the commerce through which its products are demanded and taken is always artificial, though sometimes necessary for convenience. If we remember constantly that all business is enterprise, carried on by people with the wants of other people in mind, the subject-matter of economic history need not break to pieces in our hands, even though we classify one activity as manufacturing, a second as trade, a third as transport, and so on. Those who organized and carried on business in the seventeenth century had very much the same practical purpose in view as their successors to-day, and the change in the sum total of methods and tools has been quite gradual. The constant thing is the one to follow. It never leaves us in mid-air, as might occur if we tried merely to trace the development of a machine back to the time when it did not exist.

We have seen how maritime commerce outgrew the single

EUROPE
IN 1815
0 250 500
ENGLISH MILES
P = Parma M = Modena
ICELAND
Den.
FÆROE IS.
SHETLAND IS.
ORKNEY IS.
ROCKALL
HEBRIDES
ATLANTIC OCEAN
NORTH SEA
Trondhjem
Bergen
Christiania
Skagerrack
Cattegat
DENMARK
Copenhagen
HELIGOLAND
Hamburg
Bremen
Berlin
Hanover
Amsterdam
THE NETHERLANDS
Antwerp
Brussels
Leipzig
Dresden
Prague
Nuremberg
Strasburg
Munich
Danube
Rhine
Lille
Havre
Paris
Seine
Loire
Brest
English Channel
CHANNEL IS.
Str. of Dover
BRITISH ISLES
Belfast
Dublin
Edinburgh
Liverpool
Manchester
Birmingham
London
Southampton
Cork
St. George's Ch.
IRELAND
ENGLAND
SCOTLAND
BAY OF BISCAY
C. Finisterre
Bordeaux
Lyons
Geneva
Bern
SWITZERLAND
Milan
LOMBARDY
VENETIA
Trieste
Genoa
Marseilles
Toulouse
Bayonne
ANDORRA
Ebro R.
Burgos
Salamanca
Madrid
Saragossa
Barcelona
Toledo
Valencia
Oporto
Lisbon
PORTUGAL
SPAIN
C. St. Vincent
BALEARIC IS.
CORSICA
SARDINIA
Rome
Naples
Seville
Granada
Malaga
Gibraltar Br.
Str. of Gibraltar
Tangier
MEDITERRANEAN
Algiers
Oran
Tunis
Palermo
MALTA Br.
Melilla
Fez
ALGERIA
BARBARY
MOROCCO
Tripoli
TRIPOLI
10° West Longitude Greenwich East Longitude 10°
20° 10° 0° 10°
50° 40° 30°

20°
30°
40°
50°
60°
LAPLAND
WHITE SEA
Archangel
Dwina R.
COUNTY OF FINLAND
Onega L.
Petrosavodsk
Perm
GULF OF BOTHNIA
GULF OF FINLAND
St. Pettersburg (Leningrad)
Stockholm
ESTHONIA
LIVONIA
Riga
Nijni-Novgorod
Kazan
Volga R.
CURLAND
Volga
Moscow
Dwina R.
Smolensk
Kovno
Niemen R.
Vilha
LITHUANIA
Minsk
RUSSIA
VOLHYNIA
Warsaw
KINGDOM OF POLAND
Lublin
Kiev
Kharkov
Don R.
Volga R.
Imeper
UKRAINE
Astrakhan
CASPIAN SEA
Cracow
AUSTRIA
BESSARABIA
MOLDAVIA
Nikolaiev
Odessa
Kherson
SEA OF AZOV
CRIMEA
CIRCASSIA
GEORGIA
Budapest
Szegedin
Sevastopol
Tiflis
WALACHIA
Bukharest
Belgrade
SERBIA
Rustchuk
Danube R.
BLACK SEA
Batum
Varna
BULGARIA
Sofia
Adrianople
Constantinople
Bosporus
Marmora Sea
Erzerum
ARMENIA
Skutari
Cetinje
KURDISTAN
Larissa
Smyrna
Tigris R.
Mosul
Adana
Aleppo
MESOPOTAMIA
Athens
Bagdad
Euphrates R.
RHODES
CYPRUS
Damascus
Beyrut
PALESTINE
SYRIA
ARABIA
CRETE
Jerusalem
Alexandria
Cairo
EGYPT
BARCA
30°

voyage of a ship, or even a fleet, in the seventeenth century. The great trading companies organized the markets at both ends of their routes, keeping stocks of goods which were carried away and replenished constantly. Bulkier things, of less value for weight, were moved as the cost of transport fell. This tendency increased, especially in the period taken as the subject of the present chapter, though it was apparent long before the Industrial Revolution. During the second half of the nineteenth century, trade in the necessaries of life and in those bulky articles which constitute the basis of modern industrial organization — such as coal, iron ore, and the products of the metallurgical industries — expanded as in no previous period. The railway and the steamship were vital factors in this situation. Viewed as a whole, with its background of manufacturing, it constituted something like a "new industrial revolution," or whatever else we may choose to call it.

Increased speed in transport; cheapening of freight rates; introduction of better facilities for handling heavy and bulky commodities; the substitution of steel for iron rails; improvements in the construction of locomotives; greater tonnage capacity of steam vessels (made possible through increased size and the saving of tonnage space for fuel); the introduction of refrigeration in land and ocean transport — these and many other changes of recent years permit the wide distribution of a variety of goods which could have been marketed only within a comparatively small area not so many years ago. Changes in the postal services, especially the reduction in postage, and the extended utilization of the electric telegraph, cable, and wireless, have also contributed their share to commercial progress. The development of the motor car has brought the highway back into its own.

The establishment of scheduled freight and passenger lines both on land and sea has added regularity as well as certainty to distribution, both of which were lacking in the early trade relations of the world. Banking institutions for the financing of foreign and domestic shipments have been perfected

and multiplied, and the principle of insurance has been vastly extended. All this is reflected in an increased quantity and variety of goods consumed, and hence in an extension of the market, which could hardly have been imagined in 1800.

THE BASIS OF INTERNATIONAL TRADE

The basis of international trade is found in the relative superiority, natural or acquired, of one nation over another in the production of particular goods. This superiority is rarely simple to calculate in practice. It may be founded on the limited geographical distribution of certain natural resources over the earth or on the climatic unsuitability of the purchasing country. Even in such cases the obstacles to production are often partial. It may be expensive but not impossible to produce the commodity imported, in the quantities required. For example, France has found it practicable for many years to mine *some* of the coal her industries require, but impracticable to produce it all, though perhaps not impossible. She can buy some of it cheaper abroad than she could mine it under poor conditions. The positive side of this is that her people are more profitably employed at other things. Similarly, Great Britain's advantages in other things are greater than in wheat-growing, though she raises some wheat. Her especially good climatic conditions for textile production tell more heavily in some grades and types of goods than in others. Some possible competitors, as well as some importing countries, could do a good deal toward duplicating them artificially within factory walls where the difference is not too great. Distance may overcome such advantages, or tariffs cancel them so far as a foreign home market is concerned. It should always be remembered that the bulk of the world's commerce is either domestic or among the great trading nations themselves. They are each other's best customers. There are many products, such as coffee, tea, spices, and cotton, rubber, and various other raw materials, which are restricted by climate and soil conditions. Coal, iron, petroleum, and many other minerals are of course found

only in certain areas. Some international trade is permanent and unavoidable in the nature of the case.

A somewhat different situation arises when a nation becomes industrially powerful, not because of the possession of natural resources, but rather owing to the acquisition of a high degree of technical skill. This is rare in just this form, since the skill usually grows up around the resources, though it may remain behind after these have largely disappeared, as in the case of the French silk industry. Germany's overwhelming position in certain branches of chemical manufacturing before the war was due to both factors. The great trading nations of the past, when commerce still dominated industry, were of course essentially competitors in the distribution rather than in the production of goods. Exclusive of those things in the production of which there is a natural monopoly, competition exists to-day between nations which come nearer than ever before to manufacturing the same things under the same conditions. In so far as this is true, it accounts for an intensity of competition unknown even at the opening of the nineteenth century.

As long as only two or three nations were highly industrialized — we might single out Great Britain and Belgium before the middle of the nineteenth century — production seemed to be incapable of keeping up with the steady growth of world markets. The spread of manufactured wares was accompanied by increasingly successful attempts to imitate them in countries where imports had already built up a market. This had been true even of Oriental goods in medieval Europe. Colonizing countries in the seventeenth and eighteenth centuries had also struggled in vain against the rise of manufacturing where a steady demand had been created, and one of the greatest initial obstacles of a purely business type thus overcome already.

BRITISH TRADE AND THE DIFFUSION OF THE FACTORY SYSTEM

In a situation such as that described above, there are always some pains of readjustment. If the market continues

to grow, as the figures leave no doubt that it did throughout the nineteenth century and beyond, the original producer should be able to turn to other goods, where the natural and acquired advantages are decisive, and to still others when these are successfully imitated abroad. The superiority, which is relative, will tend to be ironed out in the long run, but this generally turns out to be extremely long in practice. A good deal of confusion may be avoided by considering the Industrial Revolution always as a single series of changes in relation to a world market. Thus there was no French, German, or Russian Industrial Revolution, but only *the* Industrial Revolution as it spread to those countries and adjusted itself to their peculiar conditions. These conditions were quite different from what they would have been had the factory system not been introduced first elsewhere and continued to develop new aspects in the countries where it was well established. On the other hand, the plaints of British manufacturers and traders who could not adjust themselves to the changed situation must not be allowed to obscure the fact that Great Britain's economic structure continued to grow, among others which robbed it of some of its solitary eminence.

England was the home country of the factory system. To this early start, and the continuance of many advantages which help to account for it, were added a commercial policy extremely well adapted to the needs of business men, and the careful management of a growing colonial empire. In spite of the rise of American and German foreign trade, English leadership was maintained throughout the nineteenth century, even though British industry and commerce could not hold their relative weight in an expansion which had spread so widely over the world. At the opening of the nineteenth century England was not far from the possibility of self-sufficiency; by the close she was irreparably dependent upon trade for part of her food supply. This type of reasoning applies only to wars and other emergencies, as no country can continue self-sufficing in the modern world without crippling its economic development.

The growth in British import and export trade during the first half of the century was notable. Beginning with a total of £24,927,684 in 1801, the official value of the exports of British and Irish manufactures and produce rose to £164,-539,504 in 1849. In the same period imports of colonial and foreign merchandise advanced from £31,786,262 to £103,-874,607.[1] During the second half of the century there was an even greater increase in the total value and volume of imports and exports, but the character of the trade changed considerably.

Previous to 1860 the leading import commodities included tobacco, rice, iron bars, wine, tallow, flax, coffee, and spirits. These were now displaced by meat and meat animals, leather, chemicals, cotton, wool, silk, flax, iron and steel manufactures, iron ore, and paper. The changes in the export trade were equally significant. A marked advance took place in the export of cotton goods. With the increasing extension of factory methods to the metallurgical industries, exports of iron and steel products increased appreciably — especially after Bessemer steel began to come into the market. Woolen and linen textiles, chemicals, leather goods, and pottery likewise assumed importance in the export trade.

As suggested above, the declining *percentage* of world-trade enjoyed by Great Britain during the final two decades of the century was to be expected. The way to clear up the mystery about this common and confusing proposition is to turn it around: it is really the *rise* of industry and trade in Germany and elsewhere, looked at wrong side first. All of Great Britain's now numerous competitors put together enjoyed a somewhat larger percentage of the trade with her own colonies than formerly. The trade of these possessions increased so enormously, however, and Great Britain's trade with them at the same time, that it is impossible to accept this as evidence of decadence. India was all the more prosperous for her trade with Belgium, the Netherlands, Germany, and France, and, far from being the loser by that pro-

[1] Figures from Porter, G. R. (Hirst ed.): *The Progress of the Nation*, p. 477.

sperity, Great Britain profited by it in innumerable ways, besides remaining in the first position by a very wide margin.

So much for Great Britain's relative position in world trade. We must not make the mistake of thinking we are comparing her with Germany as, for example, of 1914, when we are really contrasting the Germany of 1914 with the Germany of 1870. Other nations besides Great Britain forged ahead rapidly during that period mainly because their natural advantages had remained undeveloped; she more slowly because she had covered so much of this ground already, and found her potential and actual economic development more nearly in line with each other. War-time and post-war events, including the establishment of the Dawes Plan, enabled foreign experts to find out from intimate contact how much German economic efficiency had been overdramatized. Foreigners had read the complaints — which were sometimes merely the excuses of unsuccessful salesmen — concerning the superiority of German methods, and paid less attention to the similar complaints of Germans about the inferiority of the same methods, with which the pre-war files of such journals as *Weltverkehr* are replete.

Two factors in the rise of Germany were especially embarrassing to British competitors: (1) A new factory system naturally has less obsolete machinery in it than an old one. (2) Germany could use tariff protection to an extent that an old trading nation with a far-flung colonial empire could not. The whole fabric of Continental tariffs affected that particular group of markets for certain British goods. Of the effects upon the British export market as a whole, we cannot be so certain. A tariff may protect the home market at the expense of keeping a fringe of relatively inefficient plants in operation and raising the average cost of production. Dumping is limited by the prices and quantities which the domestic market will stand, and a relatively high average cost of production may actually benefit the free-trade foreign competitor in the long run. There is no doubt that German salesmen and agents made themselves particularly agreeable to Latin-

American, Asiatic and African clients, and extended credit accommodations in some cases which British competitors were unwilling to duplicate. These credit facilities were at the expense of a certain sacrifice of safety. It is a more or less disagreeable fact also that white Europe has superimposed her authority upon the peoples of Africa and Asia; and it was easier for a European people not responsible for maintaining that authority to be agreeable than for those which were.

The commercial relations of Great Britain to the rest of the world have been vastly different from those of most other nations. This is due largely to the age of her industrial order and to the part played in it by carrying charges and the returns on exported capital. The growth of foreign trade during forty years up to 1920, and the excess of imports over exports, are suggested by the following condensed table:

VALUE OF BRITISH IMPORTS AND EXPORTS, 1880–1919 [1]

Foreign and colonial produce included in exports (ten-year averages, in thousands of pounds sterling)

	IMPORTS	EXPORTS
1880–1889	393,551	292,736
1890–1899	435,825	297,986
1900–1909	570,647	409,537
1910–1919	937,529	603,128

Francis W. Hirst [2] puts the usual explanation of the significance of the excess of imports over exports in simple terms, following studies of the facts made by Sir Robert Giffin in 1882 and 1898, and by the Board of Trade in 1902:

. . . The excess value of British imports over British exports mounted from 132 millions sterling in 1893 to 184 millions sterling

[1] To avoid the distortion of the figures for 1910–14 by the later ones of the decade, when the war and the fluctuations of the pound affected them, the five-year averages for 1910–14 should be mentioned separately. For imports, this average was 713,685, and for exports 570,198. The import balance, as well as the imports and exports themselves, is of course exaggerated by expressing it in depreciated pounds. In 1924 the import balance was about two and a half times that of 1913, but the pound was not stabilized until May, 1925. North Ireland was included in the statistics from April 1, 1923. The figures are not strictly comparable with those for 1913.

[2] Porter, *op. cit.* (Hirst ed.), pp. 522 ff.

in 1902, and the average for the ten years was 161 millions. In most of these years we imported more gold than we exported, and the average annual excess of gold imports over gold exports was 6 millions sterling. Taking the excess at 160 millions, about 90 millions is on account of the earnings of our carrying trade — both shipowners and underwriters. This great sum of course does not enter into the returns of foreign trade. Another 90 millions, according to the estimate of Sir Robert Giffin in 1898, was represented by interest on investments abroad against which, however, was to be set our new capital invested abroad every year. For just as the interest on investment comes in commodity imports (chiefly of food and raw materials), so our new capital exported abroad goes in the form of commodity exports (chiefly of railway material, machinery, and other manufactured articles), so that the excess of imports over exports is swollen by the interest on our investments and reduced by our new investments. Supposing the shipping and investment imports to remain stationary, it is certain that an increase of imports will involve an increase of exports and vice versa.

Great Britain's best customers in 1924 were first India, then, following in this order, the United States, Germany, Australia, France, the Irish Free State, Belgium, the Netherlands, South Africa, Canada, Argentina, Japan, New Zealand, China, and Italy. Expressed in millions of pounds sterling, the first six were in the class of 50 and over, with India at the top with 91.6. Of the fifteen mentioned, six were in the Empire, occupying first, fourth, sixth, ninth, tenth, and thirteenth places. While the political ties cannot be disregarded, their importance must not be overestimated. If they were released overnight, with a perpetual guarantee that they should not fall under the tutelage of some other power, these areas would continue to trade with Great Britain, and it is hard to believe that the volume would change radically. Something will be said later concerning the influence, mild so far, of "imperial preference." The main factors in her predominance in these markets, as in many others, would seem to be her old and highly organized commercial system — backed by an equally powerful industrial order and the accumulated habits and good will of her customers. In spite of the inroads of the war and post-war

periods, she still has enormous investments abroad, and is by far the greatest ocean carrier of the world.

THE MERCHANT MARINE

Only by comparisons can such astronomical figures as those representing the millions of tons of British shipping be made to serve even as useful symbols of the actual and relative power over the movement of goods which they are supposed to convey. We are only beginning to translate them into terms of everyday experience when we watch one little tramp steamer spend days in dropping a few hundred boxes and bales of merchandise and taking on part of a cargo of coffee or sugar for consumption thousands of miles and many months away.

Of the 21 millions of tons of registered shipping in the world in 1890, Great Britain had about 8 millions, Germany 1½, and France 1. By 1914 the total was 49 millions, of which Great Britain had 19¼, Germany 5½, and France 2½. If we take steam tonnage alone, Great Britain had very nearly half of it in 1914. Some idea of the growth of these three merchant fleets since 1870 may be gained from the following table:

British, German, and French Merchant Fleets, 1870–1914
(Round numbers, in millions of gross tons, steam and sail, vessels of 100 tons and over, as given in Lloyd's Register)

Year	United Kingdom	Germany	France
1870	5.61	.98	1.07
1880	6.57	1.18	.92
1890	7.97	1.43	.94
1900	9.30	1.94	1.03
1910	11.55	2.90	1.45
1914	19.25	5.45	2.32
1918	21.03	3.22	2.03
1920	18.33	.67	3.24
1922	19.29	1.88	3.84
1925	19.44	3.07	3.51

Note that Great Britain's tonnage was about the same in 1925 as in 1914, though the world total had risen from 49 millions to over 64 millions. The British, French, and Ger-

man tonnage added together was about 27 millions in 1914, and actually about a million less in 1925, Germany's decline more than making up for France's increase. Obviously the comparison is not complete without taking some note of the powers which, put together, had gained over 16 million tons.

The United States got nearly $7\frac{1}{2}$ millions of this. We had about $4\frac{1}{4}$ millions tons in 1870, nearly 8 millions in 1914, and $15\frac{1}{3}$ millions in 1925 — or within about 4 millions of Great Britain. Japan rose to third place during the war and reconstruction period, in round figures from $1\frac{3}{4}$ million tons to 4, giving her much the largest percentage of increase. She was not in the registry in 1870, and had only .03 (30,000 tons) in 1880. The following rough table of the shipping of other powers will give an idea of the changes in the relative positions of Great Britain, France, and Germany since 1870:

SHIPPING OF OTHER GREAT MARITIME POWERS, 1870–1925
(Millions of tons)

	1870	1914	1925
United States	4.24	7.92	15.37
Japan	small, and unregistered	1.70	3.92
Italy	1.	1.67	3.02
Norway	1.	2.50	2.68
The Netherlands	.38	1.49	2.60

Great Britain's ships were larger and faster than the world average at all these dates, so that her supremacy has been more pronounced than the figures indicate. If we count the French empire and the territories annexed after the war, the growth of France as a world power has greatly outstripped that of her commercial fleet. The most striking cases are those of the United States, Germany, Japan, the Netherlands, Norway, and Italy.

BRITISH TRADE POLICY

Although a slight relaxation in the stringent regulations surrounding British trade occurred earlier, it was not until 1823 that steps were taken to liberate commercial activity in

the Reciprocity of Duties Bill. By this act the Government was authorized to enter into agreements with foreign nations for the purpose of eliminating the restrictions on foreign trade contained in the Navigation Laws in return for the withdrawal of similar laws against British merchants. In 1824 treaties were negotiated with Prussia, the Netherlands, and Denmark; in the following year with the Hansa towns, with France in 1826, and with Austria in 1829. The Navigation Acts thus lost many of their obnoxious features.

Of even greater importance was the elimination of import and export restrictions. For centuries British trade had been struggling under a most burdensome system of protection. Hundreds of duties were collected at the opening of the nineteenth century from both imports and exports. Popular opposition to the tariff centered largely about the Corn Laws, but the restrictive system as a whole weighed heavily upon consumer and merchant. Duties imposed upon imported foodstuffs met with determined opposition owing to the food shortage in Ireland, especially in the forties (1845–46). The duties on manufactured goods were substantially reduced in 1825 and the years immediately following; the rates upon raw materials were lowered, and at the same time export duties were almost completely withdrawn. Gilbert Slater, commenting upon the reduction of the import duty on manufactured silks, makes the following interesting observation concerning conditions under the old tariff schedule: [1]

> . . . The importation of silk goods had been actually prohibitive; with the result that English ladies were so convinced of the superiority of the French silks, which they were not allowed to buy, that, in order to induce them to buy the native wares, merchants found it necessary to take them out to sea and smuggle them back into the country. Huskisson allowed importation of French silks at a duty of 30 per cent ad valorem, with a consequence that the British silk manufacturer revived and even a flourishing export trade to France began.

Under the leadership of Sir Robert Peel, duties upon hundreds of imported commodities were either completely with-

[1] *The Making of Modern England*, p. 75.

drawn or substantially reduced between 1842 and 1845. Peel's greatest accomplishment, however, was the repeal of the Corn Laws (1846–49). In 1852 and again in 1860, Gladstone carried the policy of trade liberation to the point where Great Britain practically enjoyed free trade, the few dutiable articles that remained after 1860 (forty-eight in number) being levied essentially for revenue purposes.

The hope or expectation that all the nations of the world would ultimately introduce a free-trade policy proved illusory. Alone among the largest commercial nations, Great Britain has maintained her policy of free trade, even in the face of opposition on the part of a few of her statesmen who were discouraged by the rise of protection abroad and who felt that British industry would be successful in a struggle with foreign manufacturers only by similar means. Such agitation arose periodically before the war, underwent something of a revival during the struggle, and even figured in the downfall of a Conservative Ministry as late as the end of 1923; but the opposition to protection always proved very strong in Great Britain. Not only did it go against the traditional policy of the country, but the practical difficulties of the change would be enormous and the long-time effects hard to calculate. Besides the question of principle, there is always the stumbling-block of economic relations between the home country and the other parts of the Empire.

Great Britain could hardly establish protection without some kind of an adjustment at least with India and the Dominions, which are somewhat more than mere good customers. Proposals have been made to organize a customs union to include the whole British Empire. Colonial preferences, for admitting British goods at special rates, have been suggested, and even adopted in some degree. One limit upon this type of arrangement is imposed by the increasing industrial development of the colonies. A sufficient market for such goods can hardly be expected in the United Kingdom. The colonies must think of their home markets, and also build up business with countries outside the Empire. When

a protective tariff is talked of in Great Britain, it does not mean a whole system of protected manufactures, but rather a freedom to make provision, together with the oversea possessions, for certain emergencies which keep rising because there is protection elsewhere in the world. Such tariffs are most effective in rapidly growing young industrial powers, where almost the entire emphasis is on keeping the home market and conquering those in which some very special advantage exists, such as nearness or a particularly neat balance of complementary resources. Very few serious students of the problem in Great Britain doubt the advantages of free trade among mature industrial nations, or for that matter in the world at large, but some would abandon the rigid principle in order to facilitate dealing with the details of a situation in which general free trade does not yet exist. But the dangers of such a relaxation are not imaginary. Politics is a realm of more or less rigid principles, on account of the clumsiness of public opinion in masses of people. Protection would itself tend to be exploited as a "principle" if admitted at all. Industries would overexpand, and exert pressure upon the Government through publicity and mass opinion when the pinch came. There are innumerable special interests in any political unit which make protection like a snowball rolling downhill. In the end, it may lead to the maintenance of inefficient plants, high production costs, an artificial division of labor, and serious trouble in competing for distant trade.

The post-war situation presented special difficulties, due to an abnormal state of the world market, reacting especially upon British trade in coal, a severe crisis following 1920, and exaggerated protectionism on the Continent and elsewhere. Continental protection was artificially supported for the time being by currency inflation, enabling some countries to dump goods into the world market without being able to estimate the ultimate cost. Like her protectionist neighbors, Great Britain was hampered in reaching the American market by higher duties. American industry was in an extraordinarily

strong position because of the size of this market, undivided by tariff walls; and the difficulties of exporting through the single one which surrounded the United States were partially compensated by the mass production which domestic buying made possible. The main problem here for Great Britain is a very serious one. She may have to improve her productive machinery and organization somewhat radically in order to allow the advantages in exporting which free trade gives her to balance the really vast power of American mass production; but a move toward larger-scale methods needs a particularly broad market, and this is just what the post-war situation has failed to provide.

GERMAN TRADE DEVELOPMENT AND COMMERCIAL POLICY

Though the Napoleonic wars had brought about some consolidation and paved the way for much more, Germany was still in fragments in the early part of the nineteenth century. Hampered by political subdivision and internal tariff walls, she was still shut out from the economic position which her resources and situation entitled her to expect. The rates set up by the Prussian tariff of 1818 represented a fairly complete reversal of policy. This law sought to attain moderate protection for manufactures, combined with the free admission of certain raw materials. Owing to a government monopoly, the importation of salt and of playing cards was prohibited; otherwise, the trade restrictions were far less oppressive than those imposed by other German States. Prussia extended her economic influence by entering into agreements with Schwarzburg-Sondershausen (1819), Schwarzburg-Rudolstadt (1822), Lippe (1826), Sachsen-Weimar and Eisenach (1828), and with a number of other small States.

The advantages of a liberal trade policy were soon recognized outside of Prussia, and led to the organization of various commercial leagues. Bavaria and Würtemberg formed such a union in 1827. Another group comprised the States of Brunswick, Hannover, Saxony, Nassau, and the free cities of Hamburg and Bremen. From time to time these alliances

were able to induce other States to become members of their respective organizations.

This rapid consolidation of Germany into formidable commercial leagues was soon followed by a treaty, ratified in 1833, between seventeen States, including Prussia, Bavaria, and Würtemberg. Thus the famous *Zollverein* or tariff union came into existence. Through the addition of new members, its influence was gradually extended to include practically all of German territory by 1852. Its aims were almost entirely economic, though in the end it paved the way to complete national unity under the leadership of Prussia. The elimination of internal trade restrictions gave encouragement to the development of manufactures through the extension of the domestic market, and opportunities for the expansion of commerce soon opened. Previous to 1843 the tariffs adopted by the *Zollverein* were moderate, closely following the provisions of the Prussian system set up in 1818.

Beginning in 1843 a policy of moderate protectionism was followed for about ten years, supported by the arguments of Frederick List, who ardently advocated protection as a means of encouraging new industries. In 1853 and subsequent years, duties within the *Zollverein* were again reduced, and liberal trade agreements entered into with Austria (1853) and France (1862). The adoption of such a policy was undoubtedly regarded by Prussia as economically advantageous, but it was also a political weapon which might be used in case of a possible attempt on the part of Austria to become a member of the *Zollverein* and wrest from Prussia her leadership. The *Zollverein* was renewed every twelve years until the outbreak of the war with Austria in 1866. A new agreement between the members of the North German Confederation and the States of southern Germany was successfully concluded in 1867.[1] Free importation of many raw materials and moderate duties on imported manufactures were provided for. This liberal trade policy was maintained until the tariff revision following the Franco-Prussian War.

[1] Only Bremen and Hamburg refused to become members.

A low tariff seemed to be irreconcilable with efforts to create a strong industrial state. Protection became a vital issue in the seventies, when competition with foreign countries began to interfere with domestic industry. The unprecedented industrial activity throughout Germany following the Franco-Prussian War, succeeded by a serious industrial depression, gave new energy to the advocates of protection. To permit the infant industries of the country to compete with their more formidable rivals, a revised tariff was adopted (1879), which gave protection to industry as well as to agriculture. Still heavier duties were imposed in 1890 and in 1902. The liberal trade policy of the *Zollverein* had now completely disappeared and protection was maintained even after the infant industries had become firmly established. Behind a high protective wall German industry was thus left to work out its own destiny.

COMMERCIAL DEVELOPMENT OF GERMANY

German commerce underwent a complete change during the period of industrial expansion. Exportation of manufactures and importation of essential foodstuffs, raw materials, and semi-manufactured goods increased rapidly. It soon became apparent that Germany would develop much the same industries upon which the prosperity of England rested. In so far as this was the case, commercial success depended upon the ability to produce goods at lower prices. Exact duplication, or even near enough to it for the competition to be absolutely direct, will never apply in any actual situation except to certain kinds of goods. Standard grades of coarse textiles are an obvious example. High-grade cutlery, rubber vehicle tires, timepieces, shoes, motor cars, optical goods, and such standardized chemicals as those used in photography are others which will come immediately to mind. Even in these lines there was always considerable specialization. Germany exported some cotton yarns even to England and imported others from there. The perfection of knitting machinery in Germany, coupled with her superi-

ority in black dyes, led her to emphasize certain goods at the expense of others, leading to a division of labor rather than to cut-throat competition with Great Britain. Likewise in watches, the Germans went in for the cheap but solid grades which adapted themselves to machine processes. In the American "dollar watch" type they were supreme in Europe, and with this went an enormous development of the manufacture of desk, alarm, and light wall clocks. Germany was strong in the calicoes and machine-made laces, but weak on ginghams, fine muslins, and embroidery.

To regard German commercial and industrial prosperity as growing at the expense of England was a one-sided view all too prevalent before the war. At the outset the Germans got rather a bad reputation for marketing extremely cheap imitations of standard products. They had to take what trade they could get and make the goods they could sell while the market grew up and adjusted itself to their presence in it. While they competed directly, with similar goods, in some old markets, in general their foreign trade was a new and added element in world commerce, not a mere diversion of business to new channels. Germany had a natural advantage in certain undeveloped markets, such as those of eastern and southeastern Europe. In opening up new outlets for exports she also added new streams of imports to world trade, buying about as much as she sold, and adding to the prosperity of highly industrialized nations as well as the others.

Much which has been popularized as peculiar in German business organization loses its mystery if we seek the peculiarities in the markets she particularly cultivated. Eastern Europe needed and demanded different credit accommodations from those required by British India, Canada, or Australia, for example. Both the credit machinery and the types of goods demanded by many of Germany's customers were in turn reflected in the organization of production. Finally, her richest industrial regions lay quite close to frontiers. This affected both economic and military organization and policy, especially after France and Russia made their

military alliance in the early nineties. Peace-time conscription, leading to nations of trained soldiers, was the standard Continental policy. It was especially strong combined with mass production in industry.

The following table will give an idea of the growth of German foreign trade after 1875:

VALUE OF GERMAN EXPORTS AND IMPORTS
(Special trade*)

	IMPORTS (millions of marks)	EXPORTS (millions of marks)
1875–1884 (10-year average).....	3.45	2.96
1885–1894 (10-year average).....	3.79	3.19
1895–1904 (10-year average).....	5.43	4.34
1905–1913 (9-year average).....	8.91	7.39

* Special trade is net, exclusive of goods for reëxport — that is, German produce exported and foreign produce (including raw materials) imported for German consumption.

The figures for 1923 were 6.081 millions for imports and 6.079 for exports; for 1924, 9.38 for imports and 6.57 for exports. These are confusing because of the disordered currency and price situation. On the basis of volume, Germany's foreign trade from 1919 to 1924 was not more than 40 per cent as large as in 1913. The general post-war situation has been discussed above, in the chapter on "German Industry."

Germany's excess of imports over exports before the war was due to much the same elements as noted above in the case of Great Britain, notably "invisible exports" such as shipping services and foreign investments. Among imports which stood out prominently at the opening of the twentieth century were grain, wool, cotton, and timber. The more important exports were hardware, cotton manufactures, coal (the only raw material extensively exported), beet sugar, and the products of the chemical industry. Owing to the production of certain specialized commodities, especially chemicals, Germany was able to carry on an active trade even with those countries which had become highly industrialized.

As to shipbuilding, only one or two remarks need be added

to what has already been stated.[1] German shipbuilding was on the decline early in the nineteenth century, due to the growing scarcity of available timber among other causes, reviving with the development of the iron and steel industry. From the table cited above it will be seen that the tonnage rose to nearly 5½ millions in 1914, but much of it was within reach of the Allies during the war, the drop for the period being more than 2 millions. Under the provisions of the peace treaty, Germany lost all vessels over 1600 tons, half of those between 1000 and 1600, and a fourth of her fishing fleet and trawlers. At the low point of 1920, she had less than 700,000 tons, of which total more than a third consisted of sailing ships. As the steam tonnage was rapidly built up by building and purchase, sailing craft dropped to their proper position of insignificance, making up less than 3 per cent of a total tonnage of 2½ millions in 1923. The 3 millions mark was passed in 1925, the tonnage practically equaling that of 1918, but remaining more than 2 million tons below that of 1914. Of the quality of this new fleet, Joseph S. Davis, a close observer of the European situation since the armistice, wrote in 1924:[2] "[The] German fleet approaches three million gross tons, as compared with five millions before the war, but in adaptation, efficiency, and economy it is superior not only to the pre-war fleet but probably to that of any other nation to-day."

FRENCH COMMERCIAL POLICY

France emerged from the Napoleonic wars with her manufacturers clamoring for tariff protection. It was granted in 1816 to the yarn, textile, and iron industries. To encourage wool-growing a tax was imposed upon raw wool. These events were less the foreshadowing of a new policy than the continuation of old ones. The various codes of Napoleon's time had been compiled with scrupulous attention to the legislation of the Old Régime. In France of the Restoration period, it is often impossible to tell whether the forces at work

[1] See tables on pp. 619–20 above, and comments upon them, *passim*.

[2] "Economic and Financial Progress in Europe, 1923–24," in *The Review of Economic Statistics*, July, 1924, p. 220.

were those of the eighteenth century systematized, those of the Revolution itself, or some obscure combination of the two. Protection had its bitter enemies as well as its sponsors. The rates on iron and a number of other commodities were substantially raised in 1822, and again in 1826. In spite of a strong free-trade influence — partially old French, Physiocratic and Revolutionary, partially English, following Adam Smith and encouraged by the gradual disappearance of trade restrictions across the Channel — it is safe to say that the protectionist policy had the upper hand to 1848.

Under the Second Empire (1852–70) the above tendency declined. As noted in the last chapter, this was the period of tariff autonomy in colonial policies. In the early fifties duties upon foodstuffs, coal, iron, steel, and a number of other raw materials were reduced. The Cobden Treaty of 1860 with England marked a radical departure from the earlier protectionism. It established reasonably low rates for numerous commodities important in the trade between the two countries. Within the next half-dozen years France entered into commercial agreements with practically all of the more important European countries.

The disastrous effects of the Franco-Prussian War led to a renewal of agitation for protection. The loss of Alsace-Lorraine had seriously dislocated several of the more important industries. Free trade was bitterly attacked as injurious to the industrial interests of the nation. This agitation culminated in the passage of the Tariff Act of 1881, which imposed fairly heavy duties upon manufactures. Most raw materials were not included, nor were the interests of the agricultural element looked after. The Government adopted a policy of paying bounties on domestic shipbuilding, and treaties were again arranged granting "most-favored-nation" treatment to a large number of foreign countries.

Due in part to the crisis in 1882, followed by a period of depression, there was much dissatisfaction with the new tariff. Many agriculturists had been in distress even earlier, and attempts were now made piecemeal to improve their condition

by legislation. The rates on manufactured goods were deemed too low, especially the effective ones remaining after the various treaties had been negotiated. Finally, in 1892, these were raised, and agricultural produce was given more systematic protection. The principle of maximum and minimum rate schedules was established, with the intention of granting foreign nations the privilege of paying the lowest duties on condition that they would remove or avoid discriminating duties on French goods. This tariff marked a shift in colonial policy also, as noted in the last chapter, the aim now being "tariff assimilation" rather than autonomy.

The Tariff Act of 1910 followed the general lines laid down in 1892. The provisions for maximum and minimum rates were retained. Greater protection was secured through the raising of the minimum charged the most favored nation; and at the same time higher maximum rates were introduced, operating as an added inducement in bringing foreign nations to make terms. Some commodities which had recently become important in trade were added to the protected list. To encourage industry, duties upon raw materials were generally omitted, as in the case of the earlier acts. The adequate provision which had been made for the agricultural interests in previous laws obviated the necessity of a general revision of that part of the schedules.

Such was the situation at the outbreak of the war. Franco-German trade was on the most-favored-nation basis, excluding by treaty all possibility of its injury by either party through the adoption of special tariff conventions. The two countries were recognized as economically complementary. Even under those conditions there was much dissatisfaction among business men in both nations at the difficulties which remained and a widespread belief that many of them could be removed. A tariff congress was held in Paris early in June, 1914, attended by prominent statesmen and business men of both nationalities. Within two months the nations were at each other's throats, and the French *Comité* back of the movement foundered. In 1919 France adopted by law a

system of commercial treaties based on the idea of separate reciprocity agreements instead of most-favored-nation treatment. Under the peace treaty France kept her privileges in German trade without reciprocity until 1925, when they expired. It was not until 1926 that the two nations made the initial practical steps to put their commercial relations on a treaty basis of mutual coöperation. Thus they found themselves again in sight of the tentative and unsatisfactory goal reached half a generation earlier.

Analysis of import and export statistics shows that in 1913 France still imported many basic raw materials, especially coal and iron, numerous bulky manufactures, such as machinery and the cheaper products of large-scale industry. Her export trade remained much as before, consisting largely of articles of comfort and luxury of specialized design, with relatively insignificant amounts of the necessaries of life. The value of exports remained practically stationary during the final quarter of the nineteenth century, and the imports varied only a little more. As in Great Britain and Germany, there has long been an excess of imports, due in the case of France largely to investments abroad — and of course the higher figure varies to the extent of more francs per year than the lower one. Another factor in the general French balance of payments is the great "tourist industry," as it is sometimes called. Foreigners bring large sums into the country annually and spend them for both entertainment and goods in the market. Some of these latter are carried abroad, or exported by parcel post, and most of them do not show in the figures. The ten-year averages for imports and exports for 1881–90 and 1891–1900 were almost exactly the same, but that for 1901–10 was larger:

French Imports and Exports, 1881–1910
(Round numbers, milliards — American billions — of francs)

	Imports	Exports
1881–1890, 10-year average	5.40	4.46
1891–1900, 10-year average	5.32	4.74
1901–1910, 10-year average	6.83	6.47

The eight-year average from 1911 to 1918, inclusive, is distorted by war imports, the rise in prices, the regulation of consumption, and a slight fall in the franc relative to some other currencies, including the dollar. For imports it was 16.47, and for exports 8.14. These disturbing factors have been so important in the post-war period that the figures in francs would be merely confusing, if compared with earlier ones.

For the pre-war period, the following rough comparison of the total trade (exports and imports) with that of England, Germany, and the United States may be used, the figures representing billions (milliards) of francs, gold, at a trifle over five per dollar:

French, English, German, and American Foreign Trade [1]
(Round figures, special or net trade, in billions of francs)

	France	England	Germany	United States
1902	8	21	13	11
1913	15	30	26	21

With the franc exchanging at about a third of its pre-war value in dollars, the total imports were just short of 50 billions in 1920, and the exports less than 27. In 1924 the franc averaged around a fourth of its par in the same terms, and the imports were a little over 40 billions, the exports over 41. Looked at in this all too simple way, it would appear that the pre-war import balance, which had become extremely large during the war and remained so in 1920, had been turned into an export balance by 1924; and furthermore, that the total French commerce of 1924 had increased more than 40 per cent over the 1913 figure.

This is no place to go elaborately into the nature of the fallacy involved — for such it is, as the merest glance at some of the factors which do not show in a statement in terms of francs will reveal. To begin with, the change in the price level alone more than accounts for the apparent gain. Sec-

[1] These figures are from Busson, Fèvre, et Hauser: *La France et ses colonies*, pp. 490–91.

ondly, the larger France of 1924 should have had considerably more foreign trade, given the same conditions, as she included valuable territory which had helped to swell the pre-war figures for Germany. Concerning the balance of trade, the fact that inflation tends to check imports and artificially swell exports for a while is too much of a commonplace in economics to require much comment. Moreover, the total figures for French foreign trade include the commerce with the colonies. Value statistics in terms of an inflated currency are particularly over-optimistic in this field, due among other things to the relations between the fiscal and monetary systems and the roundabout course of many of the payments, through other countries.[1]

Exports to the colonies and protectorates continued to rise and were a strong factor in the excess over imports, as contrasted with the pre-war situation. For example, this excess, in the colonial trade, was nearly two billions of paper francs during the first eleven months of 1926, whereas the balance with other countries showed a deficit. The "favorable balance of trade" — always in paper francs — was nearly 1.60 billions in 1925, but sank below 20 *millions* in 1926, though it had been calculated at around 2.50 billions on the basis of the first half. This was largely a reflection of the erratic movements of the franc, which plunged to around 2 cents in the late summer of 1926 and then crept up to about twice that figure at the end of the year. This rise was accompanied by a slowing-down of production, by unemployment, rising prices (in terms of gold), and by various other phenomena of deflation, though the franc was merely held fairly stable at the end, not actually stabilized.

The latest statistics available at this writing are those for 1926. A tentative comparison with those for 1913 brings some interesting facts to light, though it shows that the post-

[1] There is a good general discussion of this in Victor Cat: *L'Inflation — ses profiteurs — ses victimes* (Paris, 1926). This 100-page brochure is really a political tract, sponsored by M. Cachin, leader of the so-called Communists in the French Chamber. Some of the economic analysis is very much to the point, however.

war readjustment was very far from complete at the beginning of 1927. Exports, by weight, showed an increase of 47 per cent, or 10.4 million tons, over 1913. The exports of raw materials had risen 43 per cent, by weight, of manufactures 107 per cent. Food products showed a very slight decline. The France of 1926 was larger, more industrialized, and also somewhat stimulated as to exports by currency inflation. How much of the increase was due to this last artificial factor is suggested by the fact that the imports of 1926, by weight, were only 3 per cent above those of 1913. This was more than covered by the larger purchases of raw materials abroad. The effects of the war and the readjustment of resources in the treaties upon world trade can never be calculated with any certainty until they can work themselves out for a time under fairly stable currency systems. Even known weights make a very unsatisfactory measure of business activities. For example, the extremely low figure of French imports during 1926, in tons, was partially due to a falling-off in the importation of manufactures from the 1913 level — goods which are valuable in proportion to their weight.

INTERSTATE COMMERCIAL REGULATION IN EUROPE

The preëminence of certain regions in the economic life of the world has always rested upon geographic advantages. In medieval Europe the outstanding fact was the position of the Mediterranean part relative to the produce of the Orient and the markets of the Occident. During the early modern period of exploration and the development of oceanic commerce a position on the Atlantic offered much the same advantages. The nucleus of economic activity moved westward and northward; but it shifted slowly. Physical geography is only the stage, man the actor; and the action itself, as we look back upon it, is history. Southern European business men sought the profits of trade in the regions to the northward, made investments there, and started enterprises. These investments stimulated the development of northern Europe, but they also conditioned it, dominated it for a

time, and remained for centuries as a brake upon the movement of the center of economic power. Northern European business men in their turn sought the profits from trade all over the world, made investments, aided in the development of enterprises, and dominated economic life by the power of their organizations. The vast industrial resources of this region, combined with its fortunate commercial situation, finally knit the world together to a degree which had never occurred before. Modern industry represents an intensive division of labor inseparable from the extensive one which we call territorial specialization. If obliged to pick out any one characteristic which distinguishes the present economic order from all its predecessors, we might very well start by describing the mechanism of transportation and communication.

As in earlier cases, western Europe's dominance has rested upon geographic advantages plus history. Again the periphery of economic empire has developed its own nuclei, which have threatened the preëminence of the center; and again the center holds on tenaciously through accumulated skill, the power of investments, the force of habit, and the relative ease of guarding established rights with an old organization as compared with the difficulty of forming a new one to overturn them. The development of oceanic commerce in early modern times went far toward destroying any chance for such monopolies as existed in the Levant trade during the Middle Ages. Mercantilist policies were gropingly rational as long as they largely represented a northern European struggle against Spain's attempt to corner the business with the New World. Two centuries or more went by before an influential group of *Économistes* arose to remind the Governments of Europe that mercantilism was entirely out of date in a world where there were markets enough for every nation, where specialization went on in spite of all efforts toward an uneconomical or even impossible self-sufficiency, and where the growth of new transport conditions had forever destroyed the basis of commercial monopoly. It was the Industrial Revolution even more than the lucidity of Adam Smith which lent

force to this view, by strengthening its foundation of economic facts.

"Men do otherwise than they intend" — and oftentimes much better. As the Industrial Revolution diffused itself over Europe and the world, older manufacturing regions had to specialize more and more in the lines and upon the markets wherein accumulated skill and peculiar natural advantages counted most. Without any general plan or intention, an elaborate international division of labor thus appeared, almost entirely through detailed efforts to concentrate on the business which would yield profits. This territorial specialization was hampered in Europe by national boundaries. The difficulty of moving goods across these lay not only in the duties, but also in the maze of conflicting regulations and procedure in the different fiscal systems. Up to the World War the currencies were on a gold basis, so there was only the slight trouble of getting them in terms of each other. This was not very great, though Great Britain clung to a clumsy non-decimal system, and the various units, such as shillings, francs, gilder, kronen, and so on were often unequal. Some countries, notably the Anglo-Saxon ones and Russia, still used antiquated unhandy non-decimal systems of weights and measures. These petty annoyances were nothing to the main difficulty raised by the conflicts between fiscal systems, including tariff walls. Competitors like North America, with large marketing areas practically free from these hobbles to commerce, might rise in the distance, but Europe was still smug and strong, even clipping coupons upon the prosperity of the world outside.

The war cut these foreign investments to the bone, and threw the European currencies into wild disorder. Great nations spent years out of normal touch with the markets outside, while these were stimulated by scarcity to supply themselves or to call upon other sources. New frontiers arose, and the tariff walls between old ones were strengthened. When the warring countries faced the task of reëstablishing themselves in the workaday world, the task seemed so appal-

ling that books on the decline of Europe were the order of the day for a time, and many ranged the Continent with Greece and Rome among the vanished glories of the past. Then saner and more practical views gradually took the place of such sentiment. Investments which have gone up in the smoke of high explosives will never come back. No sane European wants the economic advance of the rest of the world undone — Europe may even profit by it if she shapes her own division of labor accordingly. She has only begun to realize her possibilities, and nobody is the poorer if western Europe loses its purely relative importance because other regions have gone ahead.

General free trade may be a dream, applying only to a uniformly developed world, but some of the present obstacles to commerce in Europe are useless. If that continent is to arrive at a division of labor which will make the best use of skill and resources, and thus to feed its population by furnishing what the world demands, there is need for some immediate changes which no sensible person can oppose. Since the war the actual clearing-house for economic proposals which affect more than one country has been the League of Nations. We are here concerned with its non-political activities, and chiefly with the continuous work which centers in the permanent Secretariat. The mere fact that meetings of its Council, Assembly, and committees bring people of various nations together periodically in a way which is considered normal and ordinary is also of importance. For example, the long and careful preparations for an international economic conference in 1927 had their formal beginning in a resolution introduced into the Assembly by a former Government Minister, Louis Loucheur, for the French delegation, in September, 1925. He is also a business man of the first order. Before the war this kind of move was left to private initiative or to that of single Governments, surrounded with difficulties and suspicions, and usually doomed to sterility. Once it is under way, the important thing is the continuity which only a permanent organization of trained specialists, keeping proper

records of progress made, can furnish. Here is where the Economic and Financial Section of the Secretariat comes in. It was provisionally organized in 1920, following the Brussels Financial Conference.

The practical work which can be accomplished by a permanent international organization may be suggested by a few illustrations. A conference held in Paris in the fall of 1920 greatly simplified the passport system, which had grown extremely burdensome during the preceding eight years. A similar group met in Barcelona in 1921 and laid down the principles of a Communications and Transit law for adoption by the different nations. This had a long aftermath, and led, among other things, to the adoption of an International Railway Convention. Another important move led to a study of the problem of a standardized and satisfactory calendar for the whole world. In the hope of putting the mass of agreements beyond the whims of single Governments, disputes are referred to the Permanent Court of Justice. Most important memoranda have been published by the Economic and Financial Section, including three studies made in 1926 in connection with the proposed international economic conference. One of these, a *Memorandum on Production and Trade,* showed Europe's commerce still 10 per cent below the 1913 level, and her percentage of world trade 15 below that level, in the presence of a general increase.

One illustration will indicate the kind of action which is perfectly feasible. Quite aside from the question of tariff rates, a maze of conflicts and obstructions would disappear if only the same goods were named and classified with some degree of uniformity. The example of non-automobile ladder trucks was given by one of the German delegates in the Franco-German economic negotiations of 1926. In Germany, the two-wheeled variety was classified as heavy carpentry, lathe and wheelwright work, and elsewhere as "other wooden merchandise, non-designated"; the four-wheeled were simply "trucks." Spain and Portugal listed them all, though some-

what differently, as fire-fighting apparatus. The Union of South Africa admitted them as safety appliances for use in case of fire. They were hoisting apparatus in France and Belgium, and simply "vehicles" in Australia, Sweden, and Finland; except that the last two powers treated them as "machines and apparatus" in some cases, and taxed all the parts separately if demountable without complicated tools. Norway always considered them as taken apart, taxing the running gear as a vehicle and the other parts separately, according to class. And they came through the American custom houses as wooden or iron merchandise, depending upon the predominance of one material or the other. In Switzerland, Austria, and British India, among other places, they were scheduled merely as machines and instruments "not designated elsewhere."

If instead of enumerating in detail the thousands of items which pass through custom houses, a few general classes are set up, the confusion is even worse, as different inspectors will not have the same ideas, and perhaps the same man will have different ideas on different days. Moreover, the same country has so many custom houses. In Europe alone, there are about 4350 miles of frontiers. To rationalize and to make uniform these tariff schedules is simply to substitute organization for disorder. This is, of course, only the fringe of the main question, which concerns the rates. These are shaped largely by political pressure, and rarely based on a competent study of who pays them eventually or how they affect either industry or trade. In so far as they are political and achieve the ends aimed at by the interests back of them, they are beyond the immediate reach of rational study and adjustment. Many of the classes are made up quite carelessly, however, and there are also cases where a very little disinterested scrutiny would show that the people who think they are benefited are quite mistaken.

The main function of a permanent international body like the Economic and Financial Section of the Secretariat is to give disinterested technical knowledge publicity and prestige.

Its "academic atmosphere," which has been the subject of gibes, is really its chief merit. This is only one small case illustrating the field of action of one instrument of international economic coöperation in Europe. The main point is that the "decline of Europe" is known to be unnecessary; but the rest of the world is getting too well Europeanized to be led by a disorganized continent which wastes its strength in competition with itself and hobbles territorial specialization into the impossibility of adapting itself to the market with a maze of conflicting duties and regulations.

SUGGESTIONS FOR FURTHER READING

Arnauné, A.: *Le Commerce extérieur et les tarifs de douane.*

*Ashley, Percy: *Modern Tariff History* (1910 ed.), pp. 3–73, 359–72.

Barker, J. E.: *Modern Germany; Her Political and Economic Problems,* etc., pp. 600–25.

Bérard, V.: *British Imperialism and Commercial Supremacy.*

Bowley, A. L.: *A Short Account of England's Foreign Trade in the Nineteenth Century* (1905 ed.), pp. 55–96; 141–47.

Buell, R. L.: *International Relations,* chaps. v, vi.

*Clapham, J. H.: *The Economic Development of France and Germany* (1815–1914), pp. 260–65; 314–22.

Dawson, W. H.: *The Evolution of Modern Germany,* chap. iv.

*———: *Protection in Germany: A History of German Fiscal Policy during the Nineteenth Century.*

*Day, Clive: *A History of Commerce,* chaps. xxxiv–xli.

Fay, H. V. V.: "Commercial Policy in Post-War Europe," in *Quarterly Journal of Economics,* vol. xli, pp. 441 ff. (May, 1927).

Fuchs, C. J.: *Trade Policy of Great Britain and her Colonies.*

George, W. L.: *France in the Twentieth Century,* chap. x.

Gouget, R.: *Le Protectionisme en France depuis la guerre dans les faits et la doctrine.*

*Howard, E. D.: *The Cause and Extent of the Recent Industrial Progress of Germany,* chap. iii.

Jenks, L. H.: *The Migration of British Capital to 1875.*

Kirkaldy, A. W.: *British Shipping: Its History, Organization and Importance.*

Landry, A.: *Notre commerce d'exportation.*

League of Nations, Economic and Financial Section. *Memorandum on Production and Trade.* (Prepared for the International Economic Conference of 1927.)

——— *Memorandum on Balance of Payments and Foreign Trade Balances, 1911–1925.* 2 vols. Geneva, 1927. (Vol. ii contains trade statistics for 63 countries.)

Levasseur, E.: *Histoire du commerce de la France; de 1789 à nos jours,* pp. 560–614; 639–80; 731–817.
List, Friedrich: *The National System of Political Economy.*
Lotz, W.: *Verkehrsentwicklung in Deutschland — 1800–1900.*
Marshall, Alfred: *Industry and Trade,* book I, chap. II.
*Meredith, H. O.: *Protection in France.*
Nicholson, J. S.: *History of the English Corn Laws.*
Ogg, F. A.: *Economic Development of Modern Europe,* chaps. XII, XIII, XIV.
Pogson, G. A.: *Germany and Its Trade.*
*Porter, G. R. (Hirst, ed.): *The Progress of the Nation,* chaps. XXVI–XXVIII.
Rathgen, K.: *Englische Handelspolitik.*
*Root, J. W.: *The Trade Relations of the British Empire.*
Schmoller, G.: *Grundriss der allgemeinen Volkswirtschaftslehre,* vol. II, book IV, part 3.
Young, A. A.: "Commercial Policy in the Treaties," in *A History of the Peace Conference of Paris,* edited by H. W. V. Temperley, vol. V.
Weber, W.: *Der Deutsche Zollverein.*

Note: Bibliographies on tariff history will be found in the *Cambridge Modern History,* vol. X, pp. 868–70; vol. XI, pp. 869; 871–72; 878; vol. XII, pp. 872–73; on foreign tariffs, U.S. Library of Congress, 1906; in the *Histoire Générale* (Lavisse et Rambaud), vol. X, pp. 372, 668; and vol. XII, p. 788; also in Percy Ashley's *Modern Tariff History,* cited above, pp. 165–66 and 437–38.

It is impossible to keep up with the literature on foreign commerce without the use of periodicals. Most of the new books are listed by the *American Economic Review* as they appear. The *Statesman's Year-Book* carries a short list of books which it tries to keep up to date. If current statistics on trade are needed, without any great detail, *Whitaker's Almanack* will be found more nearly up to date than the *Statesman's Year-Book,* and, in spite of its humbler dress, the *World Almanac* is usually as good as *Whitaker,* or better, except on matters concerning the British Empire. The *Annuaire générale de la France et de l'étranger* is particularly useful for France and the French colonies. The *International Yearbook* is much fuller than any of these. The *Monthly Bulletin of Statistics,* issued by the League of Nations Secretariat, is very useful.

CHAPTER XII

INDUSTRIAL AND TRADE ASSOCIATIONS

GENERAL FEATURES

Large-scale, specialized production requires aggregations of capital undreamed of in the centuries preceding the Industrial Revolution, and gives rise to types of organization very different from those which have hitherto occupied our attention. In recent years in practically every field of industry some form of combination among producers or traders has been introduced. The effectiveness of these associations varies from country to country, from industry to industry, and in many cases even within a given industry, since successive stages in the production of the same article may allow of different forms and degrees of combination.

A more or less conventional distinction is commonly made between two types of industrial combination: the horizontal and the vertical. Horizontal combination unites manufacturers responsible for one stage in the production of an article; whereas vertical combination brings together under one management the successive stages required in the production of the commodity. While there are cases which correspond pretty closely to one or the other of these as "types," it is generally less confusing in the actual business world of to-day to deal merely with horizontal or vertical *elements* or *factors* in combination. An American will think of Henry Ford when "vertical" organization is mentioned; but if he tries to extend the list into various industries, he will immediately find himself rejecting far more cases than he keeps. Even in the automobile industry there are many frankly "assembled" cars. If the manufacturer turns out his own engines and bodies, he will usually buy a multitude of other parts from specialists: tires, wheels, bearings, rear axles, electrical equipment, and so on. Vertical elements are so

much the less important, and horizontal ones so clearly represent the general tendency in European business organization, that to call them both "types" and put them on an equality would spoil the symmetry of the picture at the outset.

While economies in production are often effected — for example, through the standardization and common purchase of raw materials and the elimination of inefficient plants — on the whole, combinations are commercial rather than industrial. Even the common purchase of materials is of course a commercial activity to the end of getting them cheaper, though the accompanying large orders for single grades may enable the furnisher to make his old profit in spite of a lower price by cutting his production costs. The inefficient plants eliminated are more likely to be outside than inside the combination, and the method employed to be pressure through the markets. Given the same marketing conditions, the big combine makes possible very few production economies which could not be achieved in separate large plants, or in many industries by small ones with efficient machinery and specialization. The shoe industry is an example of mechanization and an elaborate division of labor with a small average size of plant. Complete or partial monopoly has played a big part in the aims and functions of combination. The market will absorb only so much black dye, sulphuric acid, or gasoline at certain prices. If competing producers try to sell more, price wars are likely to result; but if they cease to compete, divide up the market and hold the supply steady, they may even raise the price considerably. The combine has a crushing advantage over the smaller producer outside. It can undersell him in his narrow market, both parties sustaining losses there; but he has no gains to balance these, whereas the combination can put up the price elsewhere, in territory where it has a monopoly. Unless the law intervenes, the small producer probably goes under, and then the combine can increase its business by taking his.

In making any allusion to the "purposes" of combination,

the general aim of business enterprise to collect profits should never be lost sight of. Thus the object of consolidating and refinancing a number of plants is often the immediate one of taking promoter's profits. The permanency of the enterprise is quite a different question. It will depend upon the control of supply and price, and possibly, of course, upon the achievement of economies in production.

Every highly industrialized country has a "trust problem." In England, the early adoption of a policy of *laissez-faire* enabled the manufacturer to conduct his business with perfect freedom. As the competitive struggle of independent producers became acute in the domestic and foreign markets, combinations of capital began. These took many different forms, varying from simple price agreements to the organization of mergers and amalgamations.

GERMAN CARTELS AND SYNDICATES

Even before the period of industrial expansion, price agreements were effected in Germany in several important industries. Thus rail pools were formed early in the history of railway construction, as were likewise combinations in the tinplate industry. Most of these were temporary and exerted little influence upon industrial organization, excepting in so far as they may have paved the way for more formidable agreements in the future. German law is not hostile to monopolistic combinations on principle, so the process has been much more open and freer from complications than in the United States.

Due largely to this legal peculiarity, the cartel has been much more rigidly organized, on the whole, than the American pool. The latter was an extra-legal agreement, while the German combines were frequently actual stock companies. German writers [1] often make a distinction between the *Kartell* and the *Syndicat* or syndicate, which may be pointed out, though it does not hold at all rigidly in practice. Technically,

[1] Sartorius von Waltershausen, A.: *Deutsche Wirtschaftsgeschichte*, p. 488, for example.

the cartel is supposed to be an organization for fixing prices, limiting output, and apportioning the market; but the individual firms maintain their identity unimpaired, their activities being merely regulated. The syndicate, in the narrower sense, involves the establishment of an organization essentially for marketing a part or all of the output of each of the manufacturers interested. This obviously means a separation of production from distribution. In the realm of actual business, the terms are practically interchangeable.

The primary purpose of the cartel is price regulation (as in the textile industry), although some attempt is usually made to regulate production also. This has been done by mine-owners and producers of semi-manufactures of iron and steel. Distribution also has been regulated in the cement industry. The cartel often has some less important general functions, such as directing technical education, regulating the quality of the product, obtaining information regarding conditions of trade at home and abroad, and promoting the interests of its members in other ways.

Agreements between members of a cartel or syndicate are made for a definite period of years, which necessitates their renewal from time to time. While impermanency may be regarded as a defect in any combination, in many cases it produces a much greater flexibility of organization than would otherwise be attainable. The cartel has been most successful in the coal, iron and steel, chemical, and building-materials industries. There are some examples of such agreements even among producers of foodstuffs, although their success has been limited. Commodities easily standardized and produced on a large scale can be subjected to much more effective supervision than those which require considerable hand labor and are not geographically concentrated. The cartel first became important in Germany during the industrial depression of the seventies. About 14 organizations of this type were in existence in 1879, 35 in 1885, and approximately 385 in 1905.

There is undoubtedly some justice in the charge that car-

tels and syndicates, working behind a tariff wall, have tended to raise domestic prices above those charged for the same products in foreign markets. It is very hard to tell in such a case how much of the rise is due to protection and how much to control. In this connection, the "dumping" operations which have been mentioned above are perhaps the most impressive. The highest possible price is exacted at home and a lower one in competitive markets abroad, it being claimed that the total output thus achieved makes feasible certain economies of mass production. In defense of this, it has been argued that the domestic price is higher only relatively to the export price, and may be actually lower than could be made without these economies, made possible by a broader market. Dumping is obviously limited by the amount of the particular product concerned which the home market will take at the prices demanded. Essential goods, for which the demand is comparatively inflexible, can be forced to much higher levels than non-essential ones without killing the home market to feed the foreign one. The evidence that German combinations have forced up domestic prices is convincing; but compelling proof is wanting that they have been able to reduce production costs.

The mechanism of dumping has been for the cartel which controls raw materials to give rebates when they are used for export products, and for those which control the marketing of the output to make one price at home and another abroad, equalizing them to the producers. Where a syndicate markets the entire output of associated firms, commercial competition is often practically eliminated. It has been claimed that the use of a centralized sales agency saves the individual firms the expense of soliciting trade; but whether there is any saving in the total cost of marketing the same amount of goods is decidedly an open question.

In the operation of the syndicate, the centralized selling organization has often worked through some member of the combine, through a bank, or through a mercantile establishment. A still more important development was the forma-

tion of a separate company whose function was the marketing of the produce of affiliated concerns. Half or more of the combinations existing in 1905 had already organized such joint sales associations.

Presumably, the intricate fabric of cartels and syndicates has met some peculiar need of German production and marketing, or it would not have continued to grow. Their success has been much exaggerated by playing up only the ones which succeeded, and in these cases the conditions in the industries were so favorable that it is hard to assign any particular weight to the influence of combinations.[1] If we attribute their vitality to tariff protection, we must face the fact that combinations have also grown up in Great Britain, especially in recent years. Moreover, the German coal combines were quite effective, though coal was admitted duty free. Combinations which appear to be independent frequently work together through interlocking directorates and agreements, but this is not peculiar to Germany.

The German tendency toward formal, incorporated concentrations is well illustrated by the dye industry. Two groups were formed in 1904. These coöperated only through interlocking directorates and agreements until 1916, when a great consortium for all Germany undertook to regulate production and marketing. In 1925 these were completely fused in a single stock company known as the *J.G. Farbenindustrie*

[1] "The extreme forms of combination, close syndicates and strongly organised combines on a large scale and of a permanent character, have so far come into existence in Germany only under legal compulsion, and even then only in isolated cases; almost everywhere counterbalancing forces of decisive weight have made their effects felt. Thus, when it is said that there are more than a thousand, and even as many as two thousand, cartels in Germany to-day, the reference with very few exceptions can only be to those loose combinations which no doubt purify the atmosphere of the market to some extent, but leave the market itself intact as the dominating factor in the exchange of goods. Similarly, combines, in spite of important examples in many branches of industry and although they are even the rule in heavy industry, cannot be said to be a typical phenomenon applying to the whole of German economic life. It is not the joint stock or limited liability company but the individual undertaking, and even the undertaking which comprises only one factory and which occupies a position of complete isolation in regard to the market, that still strikes the characteristic note of German industry." (K. Wiedenfeld, *Cartels and Combines*, p. 16.)

Aktiengesellschaft, the old leader of the consortium, the *Badische Anilin und Soda Fabrik*, losing its identity in the whole.

THE GERMAN STEEL WORKS UNION

In the years preceding the World War, the *Stahlwerksverband*, organized in 1904, was one of the most powerful of the German syndicates. This organization controlled the production and distribution of heavy steel materials, and the production, but not the distribution, of "staple" iron and steel products (known as Class B goods: pipe, wire, sheet metal, tin-plate, etc.). In the production of many semi-manufactured goods (falling within Class A), a virtual monopoly was established. All goods listed in this class were sold by member manufacturers directly to the organization, which took the responsibility of marketing the entire output.

Whatever surplus remained after the deduction of the necessary operating expenses was divided among the various members according to agreement. In this way the Union was able to maintain remunerative prices, and to eliminate practically all competition between producers in the distribution of their output. Price regulation was carried out through allotment of a given quota of the total output to each manufacturer, thus preventing overproduction and allowing relatively high prices to be maintained. In the case of Class B goods, no separate selling agency was established. Each manufacturer disposed of his own products in the open market, but his total output was definitely fixed in advance. Besides the Steel Works Union, there existed in Germany in 1914 numerous syndicates among the producers of specialized iron and steel products. Most of these organizations were either directly or indirectly affiliated with the central association. Dealers in iron and steel goods also established organizations which aided the manufacturers in effectively controlling the market.

During the war the iron and steel industry was exception-

ally prosperous, but it suffered a body blow in the peace settlement, with the loss of two thirds of the pre-war ore. "Vertical" tendencies in combination had already shown themselves. Most of the cartels had been mainly "horizontal," dealing with some stage of production, though there were sometimes fairly close relations of the various ones which depended upon each other for materials or markets. There were some "mixed" cartels which combined all the stages of production. In the disordered period following the war, strategists like Thyssen, and especially Stinnes, were able to build up peculiar combinations, aided by the fall of the mark in underpricing physical property and abnormally stimulating exports. Stinnes in particular had an imposing group of properties, arranged "vertically," from mines to steamship companies. With the return to stabilization, such bizarre combinations began to disappear. "Vertical" arrangements have always been largely one-man affairs. The Continental Steel Trust of 1926 went farther in the opposite direction (i.e., toward so-called "horizontal" combination) than anything in the pre-war period. Taking only raw steel from the top of one industry, it reached out sidewise into four countries and an internationally governed territory.

Unlike Hugo Stinnes, the Thyssen family has been able to consolidate its combinations of the inflation period. Thyssen's is fundamentally a grouping of steel mills, tying together industrially related properties, and lacking the more or less grotesque "vertical" features of the Stinnes edifice. The *Vereinigte Stahlwerke Aktiengesellschaft* was formed in 1926 by the fusion of four large groups in the Rhine-Ruhr triangle, one of these the Thyssen properties, with Dr. Fritz Thyssen as President. The Rhine-Ruhr region produced over 80 per cent of the German raw steel turned out in 1925, and this gigantic new stock company holds about half of the properties concerned. Thus it controls about 40 per cent of Germany's raw steel output. Its mills are mostly in the triangle mentioned (roughly bounded by lines connecting Düsseldorf, Hamm, and Dinslaken), but it owns ore lands

elsewhere in Germany, in Sweden, Spain, and Brazil, with a total reserve estimated at 650,000,000 metric tons. Besides this, it owns about 150 coal mines, with a reserve of over 5 billions (milliards) of metric tons.

This is not only the largest steel combination in Germany, but its mines also turn out about a fifth of the entire quota of the Rhenish-Westphalian Coal Syndicate. It is also bound up with other industries through interlocking syndicates and consortiums. For example, one of the four groups fused in its formation consisted of the *Bochumer Verein*, the *Gelsenkirchener Bergwerks-A.G.*, and the *Deutsch-Luxemburgische Bergwerks- und Hütten-A.G.* — the last two being already in a consortium with the Siemens concerns, whose main interest is in the electrical industry. The *Vereinigte Stahlwerke-A.G.* has, of course, the largest German contingent in the Continental Steel Trust (*L'Union Internationale de l'acier brut*).

COAL SYNDICATES

Previous to the World War almost the entire production of coal was controlled by a small number of combinations. The most influential of these was the Rhenish-Westphalian Coal Syndicate, established in 1893 for a period of five years. Voluntary renewals took place periodically until the close of 1915, when it threatened to break up, and the Government used its war-time powers to insist upon continuation. Previous to 1915 the membership comprised 67 separate companies. The original purpose of the combine was to control the distribution of coal, briquettes, and coke. Its powers were later extended to include the ownership of mines. Like the Steel Works Union, the Rhenish-Westphalian Coal Syndicate maintained a selling agency, through which the associated mine-owners were compelled to dispose of their output. This control extended to nearly one half of the total coal supply of Germany. Again as in steel, combinations among dealers coöperated with the Syndicate to maintain prices. The organization found it necessary to control the transportation of coal on the Rhine. For this purpose a sub-

sidiary, the Rhine Coal Dealing and Ship Line Company, was established in 1904.

Besides the Rhenish-Westphalian Coal Syndicate, there was a Brown Coal Syndicate (for lignite) and an Upper Silesian Coal Convention. The Rhenish-Westphalian and Silesian groups competed to some extent, but not so as to threaten their existence. Competition from independent mine operators was fairly severe until a realignment of bituminous coal-mine operators in 1917 practically established a monopoly. The coal industry was naturally subjected to a good deal of state regulation during the war period. The Revolution and the armistice brought on a critical situation, and coal was one of the industries earmarked for "socialization." When the legislation was formed, however, in March and August, 1919, it was much less drastic than the extremists had hoped for, the January elections having set up a moderate Government. The new organization consisted of a hierarchy, beginning with eleven regional syndicates. Superimposed upon these were an Imperial Coal Union and an Imperial Coal Council.

The regional syndicates are essentially producers' kartells with labor representatives on the board of managers. They assign production quotas to their members and are responsible for the sale and distribution of the fuel. The Imperial Coal Union is a sort of syndicate of syndicates. Its members are the regional syndicates, but labor also is represented on its board of supervisors. Its function is to fix production quotas for its members, define their markets and fix maximum prices for their products. The Imperial Coal Council is a complex industrial council in which the interests of producers, consumers, labor, dealers, and the Government are represented. Its function is to formulate policies for the operation and regulation of the industry along broad social and economic lines in order to promote the general welfare of the nation.[1]

The Coal Council turned out in practice to be largely under the control of the mine operators, who alone understood the technique of the business and proceeded to run it very much

[1] Stockder, Archibald: *German Trade Associations: The Coal Kartells*, pp. 181–82.

along the lines of a big private syndicate. Poland invaded the Silesian field in 1920, after a plebiscite in which about 700,000 votes were cast for remaining in Germany and 475,000 for the attachment of Upper Silesia to Poland. After a long dispute the tangle was referred to the Council of the League of Nations, and the territory was finally split in such a way as to give Poland nearly 75 per cent of the coal production.

THE POTASH SYNDICATE

The *Kalisyndikat* has been one of the most successful of German combinations. It obtained a virtual monopoly in potash even before the beginning of the present century. A crisis in its affairs was reached in 1910, when temporary dissolution was threatened. An Imperial Potash Law passed during that year set it on a firm footing. All potash manufacturers were compelled to establish uniform maximum selling prices, fix the total quantity of the output and the percentage of it to be allotted to each producer, and to apportion the whole between the domestic and foreign markets. Distribution was placed in the hands of a separate selling agency.

About three quarters of the output was from the Prussian field, near Magdeburg, the rest coming from Alsace. The latter source was relatively more important than this proportion would indicate, but its competition with the older one in Prussia was limited by the agreement. After the war the Alsatian part was split up between three groups, the Kali-Sainte-Thérèse Mining Company of Mulhouse, the state mines of Alsace, and the *Société commerciale des potasses d'Alsace*, of Paris and Mulhouse. By 1922 the German Syndicate was producing about 85 per cent of the world supply, the rest being divided up between the three French groups in the Alsatian field and various other sources, including Spain and the United States. In the Franco-German accord of 1926, mentioned in a previous chapter, the French quota was fixed at 30 per cent and the German at 70 of an annual total estimated at 840,000 tons.

Price agreements are common in all branches of the German textile industry, in the manufacture of alcohol — in so many kinds of business, in fact, that it is quite useless, as well as unnecessary, to attempt any list. The electrical industry may be mentioned as one more typical illustration, a particularly happy one in the way it shows up some later tendencies. Its history mirrors much of the entire background of German big industrial enterprise, from the middle of the nineteenth century to the present.

Siemens & Halske set up a little workshop in 1847 for the making of telegraph instruments. The firm grew and branched out with the business, acquiring basic patents which enabled it to lay tribute upon its competitors when they appeared, or even to prevent their appearance. The German Edison Company (*Deutsche Edison Gesellschaft* — later the great *Allgemeine Elektrizitäts-Gesellschaft*, or "A.E.G." as it is usually called) was founded in 1883 to install electric lighting systems. At first this firm had to pay royalties to the Edison Company of Paris, which controlled the Edison patents for the Continent, and to buy most of its machinery and other material from its chief competitor, Siemens & Halske. Both German concerns found the Paris patent monopoly so troublesome that they entered into an agreement and bought their freedom in 1887. It was in connection with the necessary financial reorganization that the German Edison Company became the A.E.G. Already, under its old name, the A.E.G. had gone into the business of installing electric tramways. While both the Siemens firm and the A.E.G. were manufacturers, and both undertook installation contracts, the former's whole course of development has been shaped by its early attention to the purely industrial end, and the latter has been characteristically a contractor since the days when it was almost entirely excluded from the other field by patents. Siemens & Halske had begun to make electro-medical appliances as early as 1858, and later turned to the field of electro-chemical apparatus. While the

A.E.G. was occupying itself particularly with the electric tramway, Siemens & Halske were perfecting telephone instruments and cables. From this it was only a step to electric clock systems, fire alarms, etc.

An agreement of 1894 between the two firms finally put the A.E.G. in a position to manufacture its own apparatus. Siemens & Halske incorporated as a stock company in 1897. Both have spread out over practically the entire electrical field, though in the case of Siemens & Halske it was in two parts: the Siemens-Schuckert firm was incorporated in 1903 to concentrate the manufacture of high-tension current machinery in the old Schuckert works at Nuremberg and turn over the entire low-tension field to the Siemens works in Berlin.

Both of these Siemens companies have established many special plants in various parts of Germany, the tendency being for the industry to split up into parts at the manufacturing end, but to group itself by an intricate network of financial and sales organizations. This practically covers the world. For example, the Vienna branch of Siemens-Schuckert maintains a system of technical and sales offices throughout the Balkans. There is a considerable "vertical" element in the Siemens-Schuckert combination, which controls, among other things, porcelain, paper, wood-fiber, wire and cable factories, and even manufactures the Protos automobile at Siemensstadt. A consortium was set up in 1920 under the leadership of Siemens & Halske to pool their profits with those of three other great works (but not the A.E.G.) for eighty years. Besides the old Schuckert plant, this included the *Gelsenkirchener Bergwerks-A.G.* and the *Deutsch-Luxemburgische Bergwerks- und Hütten-A.G.*, the steel works mentioned above in connection with the *Vereinigte Stahlwerke-A.G.* The two Siemens concerns together employ about 100,000 people, whereas their one great competitor, the A.E.G., reached its peak in 1912 with 70,000, at which time it was the larger of the two. There is still a considerable division of labor between the two great groups and some

common effort. The battery works of Hagen (Westphalia) and Berlin were founded as a joint enterprise, the A.E.G. then retiring from this field. They also collaborated in establishing the first great wireless concern.

The A.E.G. popularized the electric tramway almost by force, buying up horse-car systems and omnibus concessions and installing electric material. This concern was the pioneer also (using similar methods) in proving the utility of generating electricity by water power and transmitting it by wires over long distances. An exhibit at the Frankfurt Exposition of 1891 was lighted by current from Lauffen, 107 miles away. This led to the construction of a 15,000-horsepower plant at Rheinfelden, driven by turbines and the current transmitted 31 miles for use. The A.E.G. built the largest steam-driven plant for generating electricity in the world at Golpa in a short time during the war, and is constructing one almost twice as large at Rummelsburg Lake. Besides the work on water turbines, it went into the steam turbine business by absorbing the *Union E.G.* in 1896. With the aid of several banks, it founded the electro-chemical *Aluminum Industrie-A.G.*, of Neuhausen, Switzerland. The variety of its activities may be suggested by a very much abbreviated list of its leading products: electric motors of all sizes, steam turbines, Diesel engines for ships, automobiles, steam and electric locomotives, wire, cable, porcelain, electric meters, wireless apparatus, and moving-picture apparatus. Within the field of electrical appliances the list would immediately become unmanageable.

Perhaps no better example could be found of what Alfred Marshall called "science in the service of industry" than this *Allgemeine Elektrizitäts-Gesellschaft.* We should go a little farther still and say "business" instead of "industry" alone. Both of these great German electrical groups went in for scientific research to an extraordinary degree, constantly refining and improving their products and also the machinery for turning them out. Especially the A.E.G., in its function as contractor, everlastingly hammered and figured at its tech-

nique for adapting the plants it installed exactly to their peculiar situation and needs. Some of these needs were technical and others of a business nature. The least improvement in meeting one or both in the initial plan made a vast difference in the profits over a period of years. Almost from the start, financiers shared the confidence of the A.E.G. staff in its ability to turn organized scientific and business knowledge into profits. When an exceptionally good thing was worked out, it was often swung by the company itself, assisted by banks. To aid in such enterprises, especially abroad, a special bank was founded, with the collaboration of the *Deutsche Bank* and the *Schweizerische Kreditanstalt* (Swiss). As early as 1900 its capital stock and bonds both exceeded six million dollars. Most of the money was borrowed abroad, and a large fraction of the stock was also held outside of Germany. Thus the A.E.G. amassed a vast capital and attached to itself an imposing number of dependent enterprises. This is the process which French writers refer to in the charge that German industry was excessively based on credit.

A concern built up in this way is naturally sensitive to the dislocations of a war and blockade, and especially to a loss of confidence on the part of foreign investors, such as was felt by all German industry after the war. Though it has not grown like the Siemens companies, the A.E.G. has weathered the storm. Its business methods were conservative with the possible exception of the above-mentioned peculiarity. President Deutsch was one of the first great captains of German industry to give public warning of the artificiality and the dangers of the extreme "vertical" tendencies in combination so manifest in Germany during the inflation period. He has been one of the main movers in another kind of propaganda which can hardly be overdone in connection with such highly specialized production: every new plant erected should be *much* more efficient than any of the older ones, which are more or less obsolete in the nature of the case because of their age. One of the chief troubles with the swift expansion in Germany since the war has been a tendency feverishly to

duplicate what already existed. The A.E.G. built up its wealth and power originally on the opposite principle, that one must always do something at least slightly different in order to get the cream of the profits.

No country to-day needs the last word in plant efficiency more than Germany, where a progressively increasing tax charge because of reparations lays a dead hand upon capital before there can be any profits. During the second year of the Dawes Plan, the A.E.G. paid out roughly two thirds of its net revenue for taxes, or twice as much as the stockholders got. Nothing short of organized genius can wring profits out of capital under such a handicap. The chance in this case lies in the still largely open field for the electrification of industry and transport in Europe. Germany consumes only 162 kilowatt-hours of electricity per person, England 141, and Switzerland 398, as against 415 in the United States.

INDUSTRIAL COMBINATIONS IN FRANCE

French industry grew up mainly around types of goods which did not lend themselves to mass production. The want, and indeed the impossibility, of standardization placed great obstacles in the way of establishing sales combinations for maintaining prices and regulating output. Large combines hardly appear except where big single firms already exist, and often not even there. For example, England has exhibited nothing like the German tendency in that direction. Some French industries are adapted to mass production, however, and in this group a certain amount of combination has appeared. Examples are coal, iron and steel, cement, some chemicals, including dyes, a few of the textiles — to a lesser extent flour-milling and tile-making.

In pre-war France the *comptoir* performed many of the same functions as the German cartel and syndicate, establishing prices and fixing quotas for the members. Within the market designated as the exclusive sales territory of the organization, members agreed not to sell independently. It has not been the rule to extend the regulations outside of such

a territory or to bind members as to quantities produced or prices asked for distribution there. For example, before the war there were two such iron organizations operating in the *département* of Meurthe-et-Moselle, the *Comptoir Métallurgique de Longwy*, and the *Comptoir d'Exportation des Fontes de Meurthe-et-Moselle*. The former controlled sales of pig iron within France; the latter was organized for developing sales in foreign markets. The *Comptoir Métallurgique de Longwy* was established soon after the Franco-Prussian War. By 1914 a considerable portion of the total output in the district had been brought under its control. A characteristic feature of this organization has been the absence of restrictions on the total production of any one of the affiliated concerns. After using up the definite quotas assigned, the members must dispose of any surplus outside of the exclusive sales territory of the *comptoir*.

Marketing of the more refined products of the industry has been more closely regulated than pig iron itself. There were a number of such organizations as the *Comité des Forges* (in the steel business) before the war. Especially in metallurgy, war conditions and government regulation hastened the growth of associations for the technical improvement of both production and marketing. These *comités* and "syndicates" are rarely incorporated. Any control they exert over competition is rather of a coöperative than a mandatory nature. Though the names are often similar, the structure of the French and German groups is very different. For example, the *Comité des Forges*, representing the de Wendel, Schneider and other great steel interests, is not a corporation, like the *Vereinigte Stahlwerke* in Germany. The same may be said of the French Mechanical Industries Syndicate, the loosely organized "professional syndicate" of chemical manufacturers, the *Chambre Syndicale* for water power, electro-metallurgy, electro-chemistry and associated industries, and so on. Compare this, for example, with the single great German corporation which covers coal-tar chemical production. Again, the *Comité des Houillères de France* (coal mines) compares

only in the loosest way with the mixed private and state system of syndicates in Germany, with close corporate ties to the steel groups. The elaborate fabric of organization back of the French textile industries deals mainly with problems of design and the technique of production on the one hand, and with the national propaganda for French goods on the other.

At the head of this curious system, which is a mixture of private coöperation and national promotion, is the *Confédération générale de la Production*. It is not a combine or "trust," but rather a bureau of information and documentation. France was split up economically into regions during the war, with groupings of local chambers of commerce as the main elements in the skeleton. These regions were more solidly and permanently organized in the reconstruction period, there being at this writing (1927) eighteen in all. One of the objects was to overcome the disadvantages arising from the high degree of political centralization.[1] This economic decentralization has been promoted by the growth of large-scale industry since the war, and by the acquisition of Alsace-Lorraine, where considerable nuclei of regional organization already existed. Two other forces may be mentioned in passing: (*a*) a considerable pressure for greater political decentralization, arising especially in the newly annexed eastern region; and (*b*) a tendency toward international coöperation by industries in Europe, which has been viewed in French political circles with a mixture of suspicion and resignation.

There was a widespread propaganda in France during the war for mass production, taking its cue from American methods and also to some extent from German ones. The French language has no word exactly corresponding to "efficiency," used in the American business sense. As applied to factory organization and the elimination of useless movements, the word "Taylorism" has been widely used, due to the vogue of a particular system which originated in the

[1] Professor Henri Hauser has written a monograph on the subject in the French Series of the Carnegie Endowment's *Economic and Social History of the War*, entitled *Le Problème du régionalisme* (1925).

United States. How much influence has been exercised by such ideas, by war necessities, and by the changed economic situation of France afterward cannot be estimated exactly. Machine industry was already growing at the expense of hand processes, and some notable cases of mergers and amalgamations had already occurred. As early as the opening of the present century, the famous *Compagnie de Saint-Gobain* had become one of the leading plate-glass manufacturers of Europe. In the next few years it absorbed into its vast organization a large number of independent producers. Through affiliations with competing domestic and foreign makers, the Saint-Gobain Company was able to exert an important influence, not only in the French market, but also abroad. This company has long been known also for the production of soda, nitric, hydrochloric and sulphuric acid, and artificial fertilizers. In this field the new situation has particularly stimulated an already remarkable growth. The rise of mass production and big firms is closely related to the development of trade associations, but not the same thing. There are vast structural differences in such organizations, and merely cataloguing methods are always to be avoided.

Like the German *Verein* and every other form of association which contains both economic and non-economic elements, the French *comité* will always be something of a mystery to outsiders. There is a perfect tangle of these "committees" in the field of colonial policy, promotion, and propaganda. Some are public, some semi-public, and some private. In membership they not only interlock with each other, but are also interwoven with various business enterprises which touch the colonies in one way or another. The special intricacy of this pattern will be apparent if it is remembered that France's tariff legislation is interknit with a peculiar mixture of "assimilation" and "personality" in colonial policies and rates. The actual effects of all this imposing fabric of organization are not to be measured by appearances, including the amount of space devoted to it in newspapers.

"There are fifty people in Paris," said a colonial administrator, "interested in the colonies. You can go around from one meeting, conference, or reception to another, but you always meet the same fifty!" He might have added that many of these people had little influence in the realm of practical economics and policies. The danger is almost always that size will be mistaken for effectiveness and that the seriousness of great but loose associations will be overestimated.

COMBINATIONS IN GREAT BRITAIN

Combination has appeared in Great Britain in much the same industries as on the Continent. Considering the fact that the British were the leaders in working out the Industrial Revolution, price agreements and the regulation of production have not been particularly impressive factors in economic development, as compared for example with Germany. The free-trade policy of the past three quarters of a century has certainly influenced this history somewhat. Both German and French combinations have worked from behind tariff walls, as have also those in the United States. If France has shown less of the tendency to combine, her industries have not been of the types which, historically, have lent themselves to it; and if Germany has exhibited more of it than Great Britain, we must remember that a young industrial country, without a colonial empire or developed foreign markets to start with, had peculiar problems for that reason. Protection and free trade, respectively, are obviously related to the economic organizations of the home countries, but in a far more complicated way than as simple "causes."

Price agreements existed in eighteenth-century England, long before the free-trade era. An example is the Newcastle Coal Vend. Its purpose was to restrict the sales of Newcastle coal in the London market. Owners of collieries were allotted a definite quota of a stipulated maximum output. The regulations of the Coal Vend were placed in the hands of

a committee of mine-owners, who established fortnightly the quantity to be sold in the London market. Price control was thus effectively maintained. Colliery-owners were not restricted as to sales in foreign countries, with the result that Newcastle coal frequently sold in distant markets at prices far below those established in London. This "dumping" process was extensively resorted to in order to guarantee continuous production. The Newcastle Coal Vend was a dominating influence in the London market until about 1844.

Combinations have also appeared during the free-trade period. A formidable one began with the organization of the Salt Union in 1888. The North Eastern Salt Company, Ltd., founded in 1899, included the important manufacturers of the northeastern coast and the Middlesbrough district, and the stage of monopoly was achieved in 1915 through the organization of the Salt Manufacturers' Association (in the Cheshire district). Two of the leading members of the North Eastern Salt Company, Ltd., the Salt Union, Ltd., and the United Alkali Company, Ltd., are also members of the Salt Manufacturers' Association. The Salt Union, Ltd., controls approximately 60 per cent of the total English output. All told, over 90 per cent is under the control of the Salt Manufacturers' Association.

In the production of iron and steel, attempts likewise have been made to bring about unified control, the methods of combination involving vertical as well as horizontal elements. An example of the former is the case of Guest, Keen, and Nettlefolds, Ltd., and Bell Bros., Ltd. (later merged with Dorman, Long & Company). Amalgamations have also taken place in armor and ship plate, and also in the sheet and tube industries. During the war a series of "Defence of the Realm Acts" established state control over many basic industries and favored private combinations in other fields. For example, coal production was brought closely under government supervision in 1917, following a succession of more tentative steps, and the pig-iron industry was practically regulated by five huge associations. The United Kingdom Soap Manu-

facturers' Association, organized in 1914, is largely dominated by Lever Brothers, Ltd., makers of more than 70 per cent of the soap produced in England. In 1920 the Association combined 140 separate soap manufacturing plants, through stock ownership. Over 90 per cent of the sewing cotton consumed by the English market is under the direct control of J. and P. Coats, Ltd. There is no apparent reason to charge that the effects of this particular case have been harmful to the best interests of the industry. There were also combinations of banks during and after the war. A Government Committee of 1918 expressed alarm at the tendency, but the largest amalgamation, known as the "Big Five," took place two years later.

The specter of financial domination was disquieting mainly because the State itself had encouraged a vast concentration of industrial organization. A Joint Council, set up by earlier federations of industrial and commercial interests, looked uncomfortably like a general syndicate of big business in the Empire. British industry is less inclined to adopt "vertical" elements in combination than is German — and they are much more spectacular than influential in both countries. The favorite method of control is the one familiar in America: combination through the actual ownership of stock. Great Britain got her share of the wave of seeming prosperity just after the war. Before it was stopped by the crisis at the end of 1920, a considerable literature was set afloat, predicting a new era of giant combinations with impressive vertical as well as horizontal features, "governed and directed by the large money and banking trusts whose power over public deposits, over drafts, and loans, is so great as to give them in all cases control of the levers that set trade in motion." [1] This feeling of panic, as later became evident,

[1] Rees, J. Morgan: *Trusts in British Industry*, pp. 104, 245, and *passim* (1922). This view was evidently formed by reading evidence taken by Parliamentary Committees three and four years earlier, which is freely quoted. Such an attitude was hasty but not inexplicable in 1919. At the time the book appeared, the general conclusions reached seemed somewhat far-fetched, and they seem more so now with the post-war boom entirely liquidated. Note the review by H. W. Macrosty in the *Economic Journal*, vol. 32, p. 533.

arose from overemphasis upon certain features of an artificial situation arising from the war. There is considerable interlocking of the directorates of banks with those of commercial and industrial concerns, as may be seen by glancing through almost any directory of directors; but this does not mean that the banks actually control either trade or industry. Heterogeneous combinations with important vertical elements proved their instability during the critical years following 1920. In the eyes of the business world they stand about where they did before the war, as freaks which can sometimes display surprising vitality under the smile of chance or the guiding hands of genius and science.

COMBINATIONS ACROSS FRONTIERS

In a world which does not have either general free trade or international incorporation, the forms of business association between citizens of different countries are perforce extremely variegated. The most familiar cases where such coöperation is found necessary are in connection with commodities internationally exchanged and used, but found only in restricted parts of the earth's surface. From the standpoint of business, their mere existence or absence is not the decisive thing. They must be present in the forms and quantities, at the distances and under the transport conditions which will make it *profitable* to move and employ them. For instance, it is physically possible to fire the Lorraine iron ore within the French frontier, but, in the present state of industry and transport, "iron goes to coal." It is a question of competition, in which the iron-producing region would certainly lose heavily, and the coal fields somewhat less.

Iron and steel, coal, oil, and rubber are perhaps the "international commodities" which have been given the most public attention, but others may be suggested, merely to give a vague idea of the length of the list. To make the modern kinds of steel, various alloys must be used, and generally imported. These include nickel, manganese, vanadium, tungsten, and chromite. Other minerals are likewise indispen-

sable to certain industries — notably copper, lead, aluminum, zinc, tin, sulphur, bauxite, mica, and platinum. Textile fibers are an outstanding case, especially cotton, wool, and silk. Vegetable oils are as important in some industries as mineral and animal oils in others. This brings us into the general field of agricultural produce. Starting just outside of it with fertilizers, we could pick out products here and there, such as cocoanut and linseed oils, hides, and various special fibers, including jute and sisal. Omitting entirely the greatest single item, the grains, we get over into the question of wood and wood pulp. Cane sugar gives rise to curious international business arrangements, such as the incorporation of the same group in one country as a landholding and agricultural enterprise and of the mill which is situated on the land under the laws of another country entirely. Odd complications arise where a power site or a deposit of raw material is so situated near a frontier as to make its utilization impracticable without crossing into another country. All these involve practical problems which come up constantly in the world's business.

They may be dealt with by means of interlocking or closely related syndicates, as in the case of the Lorraine ores and Ruhr coal before the war. The main difficulty is that national action, such as a change in tariff rates, may throw the arrangement into disorder — or a war may break out. Foreigners may protect themselves by purchasing stock in a national corporation. We have seen how German metallurgical interests have bought land with mineral deposits outside the country and a great German electrical firm helped to establish the aluminum industry in Switzerland. Petroleum, rubber, and sugar are still better examples of the practice of exploiting lands abroad. The Royal Dutch and Shell (British) oil interests combined in 1907; but Americans and Frenchmen also acquired stock in the new corporation. It established branches and daughter corporations in different parts of the world. The Turkish Petroleum Company, formed in 1912, was held, through stock ownership, by the Anglo-

Persian Oil Company, the Royal Dutch-Shell combine, and the *Deutsche Bank*. In every one of these cases there has been trouble with oil interests of other nations, all working in part through their Governments and forcing the subject into diplomacy. National retaliation and threats of it have been most disturbing to the conduct of actual business, as distinguished from politics.

Europeans generally recognize that something must be done to regulate the organization of business in commodities absolutely vital to the industries of more than one country. This was one of the reasons for calling an international economic conference for 1927, in the hope that it might lead to a permanent mechanism of coöperation. One nationalistic snag was encountered when the Russians declined to attend any meeting in Switzerland, due to the unpunished assassination of one of their diplomats there several years earlier, even hinting in the refusal that an invitation to Geneva could not have been given in absolutely good faith. A Franco-German Information and Documentation Committee had already been formed in May, 1926, with a most imposing business and diplomatic membership on both sides. Its object was not action, but merely unbiased information which, among other things, might head off illogical competition and highly impracticable divisions of labor. Negotiations for a thoroughgoing commercial adjustment by treaty between these two nations were under way at the time. A potash agreement between French and German interests, also signed in 1926, has been mentioned above.

The one event which produced the profoundest impression in Europe at this juncture was the formation of the Continental Steel Cartel.[1] It set in motion a wave of enthusiasm for this particular type of solution of the vexed question of

[1] Though frequently mentioned as a "trust," even a cursory examination of its terms shows that word to be misleading. The arrangement was a cartel or syndicate — an exceptionally loose one because of its international character and the special difficulties arising from that fact. It was merely a "union" in name: *L'Union Internationale de l'acier brut;* and European papers commonly mentioned it as an "*entente.*" A good summary of its terms appeared in the *New York Times* for October 22, 1926.

"international commodities." There is also at this writing (1927) a European aluminum syndicate, formed largely to facilitate competition with the great American trust, and the Copper Exporters, Inc., are attempting to form a world combine for trade in the metal concerned.[1] These international cartels or syndicates may meet particular situations without furnishing any general solution to the problems of industrial efficiency or trade rivalry in Europe. Any one of the arrangements could be broken up or completely changed in character in the course of a single year. This impermanency under present conditions may be illustrated by glancing at the terms of the steel cartel.

The directing committee of four is appointed by the producers of Germany, France, Belgium, and Luxemburg, the Germans casting two thirds of the vote assigned to the Saar and the French the other third. This committee fixes the quotas of raw steel for each producing group quarterly and administers a common fund arising from the payment of a dollar per ton on the entire output. These quotas are worked out by coefficients based on production and estimated market needs. Voting strength in the directing committee is in proportion to them. Each producer must pay four dollars a ton into the fund for all amounts turned out in excess of the quota. If production falls below the quota, there is a rebate or indemnity of two dollars a ton unless the drop remains at 10 per cent or more below the amount assigned, in which case the payment is gradually reduced. It will be seen that the periodic liquidations of the common fund are rather complicated. Permission to exchange quotas can never be given except to a firm in one country which owns at least 40 per cent of the stock of a concern in another. The first probable difficulty which comes to mind is that any of the Governments may prevent the transfer of funds when the periodic liquidations take place — notably Germany, at the behest

[1] See also the account of the American-Italian sulphur consortium of 1923, in W. S. Culbertson's *Raw Materials and Foodstuffs in the Commercial Policies of Nations*, pp. 83–84.

of the Dawes Plan administrators. In such a case a cash payment is to be made into an approved bank in the country whose Government makes the refusal. Troublesome as this might be, it is nothing to some of the other contingencies provided for, including several which could lead to the formal withdrawal of members or the break-up of the combine.

Although the compact is supposed to last until April, 1931, any country may withdraw two years earlier by giving due notice, and such a notice would free all the other signatories. Withdrawals for cause are also provided for. If Germany should increase the import duties on steel, any signatory may denounce the pact by giving three months' notice. It may be denounced in the same way if any of the Governments concerned should object on the ground that another Government discriminates against its general imports, unless the question is covered by a commercial treaty. This provision is of great interest, since it practically admits the impotency of the private international syndicate except in a situation more broadly and definitively regulated by other means.

Finally, the whole agreement hinges upon the amount produced. Luxemburg was given permission to withdraw either in 1927 or 1929 if her tonnage should not reach specific figures, and such retirement would liberate the others. If the output of any member country should fall 5 per cent below that during the first half of 1926, cancellation of the agreement may be effected by three months' notice. Any signatory may give similar notice of cancellation if the total output should fall below 13,139,000 tons during a six-months' period. Provision was made for admitting other producing countries on the basis of the output during the first quarter of 1926, or by special agreement. The obvious hope is to take in both Central Europe and Great Britain.

Whether or not this particular international cartel merits this amount of detailed mention depends upon its future — especially, it would seem, upon tariffs, commercial treaties, the success or failure of the proposed system of conferences resting upon the technical economic services of the League of

Nations, and other similar foundation stones for private coöperation across frontiers. This example is brought up merely to illustrate the dependence of these cartels upon the general improvement of international economic relations. European tariffs are particularly unscientific. The rates are commonly made absurdly high for bargaining strength in arranging commercial treaties. Items detrimental to the consumer are deliberately or ignorantly included because some other power wishes to export the goods and will trade something for the concession. The results of the bargaining based on these economically unsound rates are most unsystematic and often extremely bad for both producers and consumers.

SUGGESTIONS FOR FURTHER READING

Bakeless, J.: *The Economic Causes of Modern War.*

Baumgarten, F.: *Kartelle und Trusts.*

*British Ministry of Reconstruction: *Report of Committee on Trusts* (1919).

*Carter, G. R.: "The Rhenish-Westphalian Coal Syndicate," in the *Economic Journal*, March, 1912.

——— *The Tendency towards Industrial Combination.*

*Culbertson, W. S. (ed.): "Raw Materials and Foodstuffs in the Commercial Policies of Nations," in *Annals of the American Academy of Political and Social Science*, March, 1924. (Bibliography, pp. 281–83. Indispensable.)

Dawson, W. H.: *The Evolution of Modern Germany*, chap. x.

Deutsches Kartell-Jahrbuch.

Hobson, J. A.: *The Evolution of Modern Capitalism.*

Kleinwächter, F.: *Die Kartelle.*

Liefmann, R.: *Kartelle und Trusts.*

——— *Die Kartelle in und nach dem Kriege.*

*Macgregor, D. H.: *Industrial Combination.*

——— *International Cartels.* (Prepared for the International Economic Conference of 1927.)

*Macrosty, H. W.: *The Trust Movement in British Industry.*

——— "Trust Movement in Great Britain," in Ashley, *British Industries*, pp. 196–232.

*Marshall, Alfred: *Industry and Trade*, chaps. ix–xiii.

Moon, P. T.: *Syllabus on International Relations.* (Bibliography in Part 8 on economic problems, pp. 156–200.)

Raffalovich, A.: *Trusts, Cartels, et Syndicats.*

Rees, J. M.: *Trusts in British Industry* (1914–1921). (Based on the British Ministry of Reconstruction, *Report of Committee on Trusts*, mentioned above, and not very highly recommended by reviewers.)

*Riesser, J.: *The German Great Banks and their Concentration*, pp. 703–50.
Rousiers, Paul de: *Cartels and Trusts.* (Prepared for the International Economic Conference of 1927.)
Tower, W. S.: "The New Steel Cartel," in *Foreign Affairs*, January, 1927 (vol. v, pp. 249–66).
*U.S. Federal Trade Commission: *Report on Coöperation in the American Export Trade*, vol. I (1916), pp. 98–127, 272–79, 285–92.
U.S. Geological Survey: *World Atlas of Commercial Geology* (1921).
U.S. Tariff Commission: *Colonial Tariff Policies* (1921).
*Usher, A. P.: *The Industrial History of England*, chap. XIX.
*Wiedenfeld, K.: *Cartels and Combines.* (Prepared for the International Economic Conference of 1927.)

CHAPTER XIII

OTHER WESTERN EUROPEAN COUNTRIES

SIMILARITIES AND CONTRASTS

The distinction between western and central Europe is not particularly useful or suggestive for the purposes of economic history, especially since the World War has split Austria-Hungary into fragments. It seems more logical to call the entire territory between the Adriatic and Baltic Seas "western Europe." Even an arbitrary line drawn northeastward from Fiume and gradually curving northward and northwestward to follow the boundary between East Prussia and Lithuania would have to be extremely crooked to serve at all as a boundary between eastern and western Europe. The territory east of such a line presents great similarities as to economic life, but it comprises two fairly distinct parts: First, southeastern Europe includes the Balkan Peninsula and certain adjacent lands whose life is similar. The main historical facts which distinguish it are the long Turkish occupation, the rise of Austria and Hungary at the expense of the Ottomans, and finally the appearance of independent and race-conscious national groups. Second, the outstanding thing about the remainder of "eastern Europe" is the administrative and economic unity, the rise, degree, nature and consequences of which is the subject-matter of Russian history. We may set aside both divisions of eastern Europe for separate treatment.

Because of the rough unity of western European civilization, most of the matters to be treated in the present chapter are fairly familiar, or at least we can stand on familiar ground to view them, because they lie so little beyond. Both Belgium and the Netherlands have important colonies and considerable ocean-borne trade. Their industrial systems are not so radically different from those already examined as to exclude

useful and fairly easy comparison. Switzerland is landlocked and without colonies, but her economic life is decidedly western European. The Scandinavian countries have large shipping interests and industries similar to those of Great Britain, Germany, or France, but their populations are small, and they have no important colonies. They are poor in coal, as is Italy also. Sweden, Italy, and Switzerland have all developed their resources in water power to an exceptional degree. The only feature of economic life in the territory here set apart as "western Europe" which would be quite unfamiliar to an Englishman or American is peasant farming, with its attending group of peculiar institutions. But the Frenchman or Italian can find plenty of material in his own country that will help him to understand the situation farther east, where there is an overwhelming peasant majority.

BELGIUM

The southern part of the Low Countries had been the great industrial district of northern Europe up to the destructive wars of the sixteenth century. The manufacture of cloth from English wool had been gradually transplanted from Flanders to England. In a very real sense, the Flemish weavers were the schoolmasters of the British Isles in the most important textile industries. In spite of all their vicissitudes, the Belgians were fully equal or superior industrially to any Continental people at the time their country was overrun by the French during the Revolutionary and Napoleonic era. With the onset of the Industrial Revolution, the ancient rôles were reversed. It was chiefly Englishmen who introduced the new machine processes into Belgium (as the country was to be called after the war for freedom in 1830), giving her a tremendous industrial lead over all Continental countries. William Cockerill, a wandering Lancashire mechanic, came to Verviers in 1798, and soon began manufacturing textile machinery of the English type. He and his son imported a Watt steam engine in 1813, used it as a model, and in a few

years the son had built up one of the greatest machine works in the world at Seraing, near Liège.

Besides the stimulus of English engineers, artisans, and capitalists, a great favor was unconsciously conferred upon the Belgians by the French occupation at the time of the Revolution. The Scheldt River, closed since 1648 because of English and Dutch trade jealousy, was reopened by the French in 1792. Vestiges of the hampering medieval gild system disappeared. Shut off from English goods by the Continental Blockade, Napoleon bent every energy to replacing them in his own territories, and the Belgian lands were the greatest beneficiaries. One of the finest coal fields in Europe runs across southern Belgium from west to east, with its extreme ends in France and Germany. Of nearly 500 collieries which produced some 5,000,000 tons of coal for France in 1807, almost all were in what is now Belgium. France's output after 1815 was less than 900,000 tons. Belgium was mining about 6,000,000 tons annually at the time of gaining her independence in 1830 — an output not equaled by the whole of France until about 1850, at which time the Belgians had far surpassed it. This is only part of the story. Industry in general more than kept pace with coal mining, and by 1840, the Belgians were actually importing English coal. Belgium was the one country in Europe, as Clapham remarks, "which kept pace industrially with England, in the first half of the nineteenth century."

Even in 1913, the coal output of Belgium (23,000,000 metric tons) was three fifths that of France, and the imports of coal exceeded the exports. Iron was also an important mining industry, and Belgium produced roughly a fifth of the entire world supply of zinc. Her great textile industry employed some 180,000 workmen, manufacturing woolens, linen goods, carpets, and lace which had been famous since the Middle Ages, as well as cotton goods. Belgian hardware and arms are known around the world.

In spite of a dense population and a high degree of industrialization, agricultural produce and the manufactured by-

products of farming are among the greatest sources of wealth. Sugar factories, breweries, and distilleries head the list of industrial plants of this sort. Rural holdings are small, and the methods of exploitation are more like gardening than ordinary field work. An area of 11,373 square miles and a population of 7,570,000 give Belgium more than 650 inhabitants per square mile — making her the most densely peopled country in Europe. Fields, forests and grasslands cover 88.5 per cent of the area, leaving only 11.5 for cities, highways, rivers and unutilized tracts of land, as compared with 9.5 in Germany and 17 in France. In spite of intensive cultivation of cereals, Belgium before the war had to pay about $80,000,000 annually for imported cereals to feed her industrial population. Other important agricultural products include sugar beets, potatoes, flax, hemp, rapeseed, and chicory. Stock-raising is highly developed, Belgian horses being particularly prized. Butter and cheese are exported, and sheep are raised for both wool and mutton on the poorer plateaus.

By the terms of the Versailles Treaty, Belgium gets the small but valuable industrial regions of Eupen and Malmedy from Germany, besides 8 per cent of any indemnity which may be collected, a billion dollars cash, with interest, to pay debts to the other Allied Powers, and various mandates. The war damage to Belgium was estimated at $7,600,000,000, consisting largely of machinery destroyed, removed, or worn out and not replaced. The iron and steel industries suffered most, the output during the two years following the war being less than one fifth that of 1913. Not all of this decline represented material damage, much of it being assignable to the general derangement of business due to the war, to unstable currencies, to the crippling of the central European economic nucleus afterward, and to various obscure causes.

After a long period of inflation, accompanied by inability to balance the budget, Belgium finally took radical steps in 1926 to restore financial stability. Though reconstruction was practically complete, the franc (par value 19.3 cents) fell to 2.12 cents on July 12. The King was made financial

dictator. The national railways were turned over to a corporation for 75 years. Other state property was treated similarly, taxes were raised and consumption drastically regulated. In October the franc was stabilized at 2.78 cents and a new unit, the *belga* created, worth 5 francs or one thirty-fifth of a pound sterling. It is based on gold and for use only in foreign trade. Like France, Belgium escaped the severe unemployment problem so common in Europe between 1920 and 1925. About 5 per cent were unemployed at the opening of the latter year, but the number was much lower both before and after that time. Compulsory old-age insurance was adopted in 1924.

Eighteen thousand square miles of German East Africa were added (as a mandate) to the Belgian Congo, already containing over 900,000 square miles. This vast African empire is rich in minerals, rubber, palm oil, cotton, coffee, sugar, tropical fruits, and even in precious metals; but its development has hardly begun. It has perhaps 10,000,000 inhabitants, only 3000 of them being Belgians, two thirds of whom are officials of the Government. The cargoes entering the ports annually before the war amounted to over a million tons. A yearly revenue of nearly $6,000,000 did not quite pay the expenses of administration, but of course this does not mean that the sum total of profits to *Belgians* was not far greater than the total outlay by Belgians, the Government included in both cases.

HOLLAND, SWITZERLAND, AND SCANDINAVIA

Most of the overseas areas seized by England during the Revolutionary period were returned in 1815 or later, and the economic importance of the Netherlands to-day is largely as a colonial power. The home country has an area of only 12,582 square miles, with a population of about 6,750,000. It is thus about the size of Maryland, but is over four times as densely settled. The colonial population is about seven times as large, and the area over sixty times greater. Seven eighths of a colonial empire of 783,000 square miles is in the Malay

Archipelago of the East Indies. This region includes the best of the famous "Spice Islands" — Java, Sumatra, Molucca, the Celebes, about two thirds of Borneo, and the western part of New Guinea, besides many smaller islands. With its 700 people to the square mile, Java is the most densely populated land mass in the world. Cheap Malay labor was and is an inevitable product of this situation, as cheap Hindu labor is of the British exploitation of thickly settled India.

The old labor system of the Dutch East India Company, which broke up in 1798, amounted to virtual slavery. Natives were obliged to do forced labor for the company during half the year, under conditions so hard that population had begun to decline. Free labor proved unprofitable on account of the sharp competition of other tropical regions, and in 1832 the Governor Van den Bosch installed the "Culture System" which is often known under his name. This controlled the crops planted, took one fifth of the produce for the Government as taxes, and gave the Government the privilege of buying the rest at the supposed "market price." Coupled with the readoption of forced labor, this gave vast opportunities for fraud and for the exploitation of the natives. It was gradually modified, and an ostensibly "free" labor system was formally adopted in 1890.

In regions such as the Dutch and British East Indies, there is always a temptation to work up the raw materials as far as possible on the ground, where wages are low and legislation limiting hours or defining conditions is wanting. Holland, England, and Belgium have all been accused of founding their prosperity on the actual or industrial serfdom of alien tropical races, too far away for conditions to weigh upon the consciences of Europeans at home. The terrific scandal about the Belgian Congo at the opening of the present century died down later, but there is no want of evidence of impending changes in the Dutch and English East Indies. International interest in tropical labor conditions was particularly manifest at the Peace Conference of 1919, but the

increasing movement of capital to the areas of cheap labor may prove the stronger factor of the two, bringing the East Indians into more direct competition with European labor. The European labor groups have not only brought great pressure upon their Governments, but they have also taken a keen interest in organizing native labor and raising standards in the tropical or sub-tropical dependencies. These movements have barely begun their inroads upon Dutch paternalism in the East Indies, but their swift march in near-by English possessions has caused a good deal of alarm. The Dutch constitution of 1922 declared the East India possessions an integral part of the Kingdom — no longer a colony. Thus all legislation became subject to approval by the States-General at home. Nevertheless, unrest has grown, and incipient revolts have even had to be put down.

There is perhaps no better illustration of the effects of the newer world-wide organization of marketing and transportation and the rise of modern applied science than the changes brought about in the Dutch East Indies. The dense and increasing population has tended to force the intensive cultivation of food, especially rice, ahead of commercial crops for export. This has been partially due to the profits from other things, such as tin, oil, and rubber. The competition of other regions has kept prices down and ended the earlier Dutch monopoly. Brazilian competition for the coffee business has made even greater inroads than the pests which swept the East Indian plantations during the past century. Brazil pours over a million tons of coffee into the world markets every year, a figure more than fourteen times higher than the present one for the Dutch East Indies. The British East Indies now produce some 250,000 tons of tea, Java only about 40,000. Dyes manufactured from coal tar and other minerals threaten the final ruin of the indigo trade. Sugar cane, tobacco, and Peruvian bark are the great commercial crops. Almost the entire world supply of quinine is of Javanese origin to-day, the trees having been transplanted from Peru. The tin mines of Bangka and Blitong, however,

now export about 20,000 tons, of a world supply of only 130,000. Rubber has also become important of late years, and the Dutch East Indies rank fourth in petroleum output. Thus there is another side to the apparently dark picture of agriculture. Brazil might also be willing to raise less coffee if she had Java's developed resources in other things. The total commerce of the Dutch East Indies amounted to over three quarters of a billion dollars in 1923 and 1924. Of this, the bulk was with the Netherlands. Other important customers of the Dutch East Indies are Great Britain, the Far East, Germany, France, and the United States. During both of the above years, the value of the exports was about twice that of the imports. The chief agricultural exports of the Dutch West Indies and Guiana are sugar cane, coffee, cocoa, vanilla, and tobacco.

This magnificent colonial empire helps to explain why the Netherlands is second only to Belgium among European countries in population density — about 555 per square mile. Much of the soil at home is marshy, and a good deal of the remainder poor. Over 27 per cent is unproductive — an area about equal to that of the cultivated fields. More than one third of the whole area of the country is given over to pastures and meadows. In all Europe, only Great Britain has a larger percentage of grasslands. There are almost no forests — less than 3 per cent of the area, as compared with 26 per cent in Germany and nearly 4 per cent even in Great Britain, where the wood shortage is notorious. Moreover, there is very little in the way of mineral deposits. The coal mines at Limburg yield some three million tons a year, which leaves the Dutch to import the bulk of their coal from Germany, Belgium, and England.

It will be recalled that the Dutch part of the Low Countries was chronically overpopulated even in the Middle Ages, and sent a great many colonists into parts of Germany. We might do well also to remind ourselves again of the strategic position of the Netherlands. Both the Scheldt and the Meuse reach the sea by way of Dutch territory, and the

Rhine is far more important than either. The great Ruhr coal field and the concentrated industries of the German Rhineland are thus in the same water-transportation system with the Netherlands. Perhaps no other European country has been so decidedly in the German economic orbit during the past few decades, especially as the Germans had just what the Dutch lacked in essential raw materials. The Scheldt River was neutralized and guaranteed open to merchant ships in peace or war, by an agreement signed in 1925 between the Dutch and the Belgians.

With these facts before us, we can get a rather orderly view of Dutch industry and commerce. As in early modern times, the greatest industry is fishing. Stock-raising and dairying are also important. Grain-farming has actually declined, but sugar beets, flax, tobacco, potatoes, vegetables, and flowers are grown on a considerable scale. The other great industries are what we should expect after a study of the colonial empire. Sugar, rice, liquors, soap, oils, and chocolate are prepared in huge quantities. There are also some spinning mills. Over a hundred million cigars per year are manufactured in the Netherlands, largely from colonial tobaccos.

Still, it is as traders and financiers rather than as industrialists that the Dutch play so great a rôle in European economic life. Their foreign trade in 1913 amounted to nearly three billions of dollars, or only a little less than that of France, which had a population over five times as numerous, and an area more than fifteen times greater. A little over a third of this foreign trade was with Germany, the remainder with Great Britain, Belgium, the United States, and Russia. Some enterprising Dutchmen profited by the disorganized conditions in central Europe after the war, but there can be no question that the country as a whole has suffered, and it is not difficult to account for Dutch interest in the economic reconstruction of Germany. Before the war, American, Dutch, and German oil interests often worked hand in hand, as in the Rumanian fields. As a result of the treaty arrangements,

Englishmen and Americans have become the great competitors for the world's petroleum supply, with the Dutch playing a rather weak second-fiddle to the English.

Holland, Norway, Sweden, and Denmark, all great seafaring countries, suffered heavy losses in tonnage through sinkings, capture, etc., during the World War. Norway alone lost over 800 vessels, totaling about 1,000,000 tons. Only the broadest outlines of the intricate problem involved can be sketched here, and no really adequate study has been made. Nations largely dependent on commerce could not stop trading and starve because of the bewildering declaration and counter measures of the belligerents respecting contraband, blockades, and the like. The war itself created dire needs which led to most profitable business opportunities for individuals. Norway was so situated as best to be able to carry for Great Britain, the Netherlands and Sweden particularly for central Europe, and Denmark both ways. Shipowners were willing to use their vessels for one great belligerent or another, provided that the charges were high enough and, in some cases, that British or German groups would furnish insurance at satisfactory rates. False papers had often to be carried, showing the cargo, its origin and destination, to be different from what they actually were. It was the sailors and officers who ran the real risks and underwent the real hardships. The Dutch merchant tonnage was about 2.6 millions in 1925, as compared with 1.5 in 1914.

In all the near-by neutral countries, special war needs made profits for some industries, while the interruption of normal economic life brought about unemployment and loss for many others. For example, eastern Switzerland, in the central European economic system, had to pay for the indispensable German coal partially by manufacturing things which Germany, with her industries converted to wartime purposes, found herself short of. This was not a technical breach of neutrality, any more than were the enormous shipments of munitions from America to the Entente Powers be-

fore the entrance of the United States into the struggle. Economically speaking, there is really no neutrality (in the sense of absolute non-participation) possible in the modern world, for countries within reach of a war.

Switzerland has partially made up for an almost complete lack of coal by vast utilization of water power. It was estimated in 1920 that 600,000 horse power was already in use, and that when fully developed, the Swiss would get something like 3,500,000 horse power from their streams. Before the war, the exports of silk and cotton textiles from Switzerland were about as large as those from France. Zürich, Winterthur, and Basel manufacture much machinery, both heavy and light. The watch and clock industries are largely in the French-speaking fringe of northwestern Switzerland. Of late years American standardized methods have forced the Swiss to go in more and more for the cheaper grades of watches. Central Switzerland, largely a herding country, exports much cheese, condensed milk, and milk chocolate. What the French call the "tourist industry" is one of the most important in Switzerland. There are accommodations for some 125,000 visitors at one time. Before the war, there were about a million tourists a year, from whom a profit of nearly $25,000,000 was drawn — a considerable business for a people numbering only four millions. This source of revenue again reached the pre-war level in 1925. Old-age insurance was established by constitutional amendment during that year.

Norway has no coal worth mentioning, and must get the surplus wealth which keeps her from being a nation of peasants chiefly from fishing and from maritime commerce. Denmark is an agricultural and dairying country, with England and Germany as her two best markets. Her merchant marine is ninth in the world, with over a million gross tons. That of Sweden is only a little larger, but Norway and the Netherlands have nearly two and a half times as much. Belgium's shipping tonnage is less than half that of Denmark. This comparison places their relative positions in world com-

merce fairly well.[1] Denmark's small economic units, overwhelmingly agricultural population, and high general level of education have made her a land of coöperative enterprises. Her successful coöperatives have greatly influenced those more newly established, from Russia to Ireland, and even outside of Europe.

Sweden is more of a manufacturing country than either Norway or Denmark. Like them, she lacks coal, but has some important deposits of high-grade iron ore, and, like Switzerland and Italy, has developed her water-power resources. Iron and steel goods, textiles, glassware and matches are exported in quantities. Advanced types of electric furnaces for turning out some of the higher grade steels have been installed on a very considerable scale.

Economically, the life of these small nations is seen to be very closely linked with that of their larger neighbors. All of them are short of coal, and all are practically without iron excepting Sweden, where the quantity is not very great, although the quality is particularly high. Holland, Switzerland, and Sweden are all decidedly in the German economic orbit. Norway, Sweden, and Denmark have similar languages, were under Hanseatic influence during medieval and early modern times, and have been politically united in various ways at various times. Norway, with less than 22 persons to the square mile, is the most thinly populated country in Europe; Sweden has only about 34 to the square mile, while Denmark has over 190, Switzerland over 240; The Netherlands over 550. Sweden and Norway have no colonies of any great economic importance, and Denmark retains only Greenland since selling her West Indian islands to the United States in 1917 and giving Iceland its independence.

[1] Comparisons such as that of Denmark with Belgium, or of the Netherlands with France, as to industrial and commercial "importance" among nations suggest the artificiality of treating "agriculture" and "industry" separately. The "importance" of a country in international trade is a reflection of the degree of *economic specialization*. Other things being equal, this will be greater for a small country, because her resources will be less *varied* than those of a large one. In Denmark, agriculture is almost a "manufacturing industry," importing "raw materials" (feed, fertilizer) and exporting finished produce.

The Netherlands, as we have seen, is a great colonial power. Switzerland is the only one of the five without a significant merchant marine. These reservations and contrasts suggest the cautious skepticism with which all such comparisons as the present one should be approached, however valuable or suggestive they may be. The similarities are so great as to suggest that in spite of the talk about current economic imperialism, the differences between European seafaring countries with and without colonies can easily be exaggerated. Small and peaceful nations have not been at all backward or inferior in their achievement of a high average standard of living and a corresponding level of culture.

ITALY AND THE IBERIAN PENINSULA

These two great Mediterranean peninsulas have a different climate from the rest of western Europe. In the Middle Ages, as we have seen, they were its most highly developed regions. Italy went into eclipse with the decline of the Levantine trade routes, and still more so with the rise of the western nations at a time when she was in political fragments. Spain, economically weakened by the expulsion of the Moors and Jews, exhausted herself in the simultaneous attempt to found a world empire and wield a balance of power in Europe, at the time of the great wars of religion.

Italy's national unity was not achieved until the decade 1860–70. There had been no long-standing customs union, as in Germany, to prepare the way for economic greatness. As late as 1840 there were eight customs stations between Milan and Florence, a distance of a hundred and fifty miles. Most of the little Italian states were extremely backward in their economic policies, and Leghorn was actually the first commercial city of the peninsula. It is significant that Count Cavour, the greatest single figure in Italian unification, labored for years toward the modernization of the economic system of Piedmont-Sardinia before attempting the political and military stroke. The backwardness of the Two Sicilies

may be illustrated by the fact that when they came into united Italy, adopting the Piedmont customs rates, more than 99.5 per cent of their tariff on silk was removed.

The immediate effect of abolishing the multitudinous Italian tariff frontiers about 1860 was to double foreign trade. There followed nearly twenty years of prosperity (to about 1880), largely founded on improvements in agriculture and the free movement of goods. The main railway lines were built, increasing the mileage from 800 to 5000. Italy had been almost purely agricultural up to 1860. At the time when the Germans were feeling their way to a marvelous empire founded on steel and coal, the Italians had to face the problem of organizing a modern state without these resources. The debts of the unification period were large, and the new central government proved costly. Agricultural methods were still primitive, much of the soil poor and the population dense, so it was a knotty problem what exports might be found to serve as a means of paying for the necessary imports.

England and France led the way to the newest type of economic imperialism just after 1880, and all properly self-conscious nations felt impelled to follow the fashion at whatever cost. The old free-trade liberalism of the middle of the century went into eclipse on the Continent, and the era of tariff wars opened. Italy, like other countries, followed the often conflicting principles of revenue and protection in formulating her tariffs. She found it impossible to arrive at any rational general principles, beset by conflicting interest-groups and doctrines. A light schedule of duties passed in 1878 finally became sharply protectionist in 1887. This inaugurated a disastrous tariff war with France, each party raising rates by turns. There had been decidedly bad blood between the two nations since the French seizure of Tunis in 1881, which made Italy a militant member of the Triple Alliance, with Germany and Austria-Hungary, the next year.

For a decade following the 1887 tariff, Italy and France were bitter rivals, and had almost no commercial dealings

with each other. This was the period when the economic and imperialistic roots of the World War were beginning to sprout. An Italian attempt to conquer Abyssinia met disaster in 1896, largely due to the arming and training of the Abyssinians by the French, who had colonial designs of their own on that part of Africa, as part of a broad belt of territory they were trying to carve out for themselves across the continent from west to east. These plans were frustrated in turn by the English at Fashoda in 1898. Great Britain had her eye on a strip of territory across Africa from north to south, so that the British and French projects inevitably cut each other in two, and both could not be realized. A similar, though perhaps less acute, tariff war between Russia and Germany came to a head in 1891.

During the same year, Russia and France began the formal conversations which led to the Franco-Russian Dual Alliance, whose terms were to remain secret until published by the Bolsheviks in 1917. Italy's economic interests in the Balkan Peninsula clashed fundamentally with those of Austria-Hungary, as we shall see later. Any diminution of the bitterness between Italy and France inevitably tended to bring out the clash between Italy and Austria-Hungary, thus threatening to weaken their Triple Alliance with Germany. Italy had comparatively little direct interest in the one great issue between the groups which came to overshadow the others in the new century — whether Austria-Hungary or Russia should dominate the Balkan Peninsula. Provided the Italians could acquire the Adriatic coast opposite them, they were rather inclined to favor Russia, with which state they had no direct quarrel. This anomaly in Italy's position enabled France to come to a secret understanding with her in 1902, and Russia seven years later. Especially after the defeat of the Turks, first by Italy and then by the Balkan League, in 1911–13, the two great Central Powers were left practically isolated to deal with the growing strength around the nucleus of the Franco-Russian alliance. Their perturbation about this precarious position, and the steps they took to

rectify it, were among the main causes of the World War. Italy took Tripoli and Cyrenaica after her war with Turkey in 1911.

The type of share-tenancy known as *métayage* survived the liberalizing period of the French Revolution in both Italy and Spain. Italian agriculture has clung to hand processes, as compared with that of Germany or France, and the yield of grain per acre is smaller. Labor has remained relatively cheap, and Italy has maintained a high tariff on agricultural machinery. Wheat has to be imported, but there is a small surplus of rice and maize. Of the commercial crops, sugar beets, flax, and hemp are the most important. Wine and olive oil are exported in quantities. Only Japan and China lead Italy in the export of raw silk — about 4000 metric tons per year — and silk manufacturing is also a first-rate industry.

There is but a negligible amount of coal in Italy, and the only iron deposits in quantity are on the island of Elba, where they were worked in the Middle Ages. Tuscany produces copper, as in Roman times, and Sardinia yields some lead, zinc, and silver. Italy is the great world source of sulphur, furnishing recently nine tenths of the total supply. Borax is another great product of her volcanic soil. The finest marble (Carrara) comes from northeastern Italy.

Italy imports English coal by sea for manufacturing purposes, but the real basis of her industry is water power, which is perhaps more extensively exploited than anywhere else in Europe. About a million horse power is already developed, and the possibilities are vast. Count Cavour once remarked that Italy had more potential motive force in her waterfalls than England in her coal mines. Both are better calculated now, and it is clear that a century or two must elapse before that statement can hold good, but Italy's hydraulic power resources are important, nevertheless. Their location concentrates the great Italian industries mainly on the Alpine slopes. Among her manufactures the textiles come first, led by silk. Home grown flax, hemp, wool, and straw are woven on a

large scale, and imported wool, cotton, and jute are also worked up. Italian machinery and automobiles are well known abroad, but play a secondary rôle in the sum total of manufactures. Before the war, the Italian merchant marine was the seventh in the world, France and Japan being fifth and sixth, respectively. In 1925 Italy held sixth place, having nearly doubled her tonnage in twelve years. The foreign trade (exports and imports) in 1913 amounted to $1,200,000,000, or somewhat less than half that of the Netherlands.

Italy is only a little over half as densely populated as Belgium, but it is more crowded in the economic sense, because of the scarcity of raw materials. Emigration has been enormous for many years. In 1904 some 500,000 left Italian shores, and in 1913 over 700,000 — which is more than the population of Rome. Some of this emigration is temporary, but in 1913 the excess of exodus over inflow was over 500,000. The colonies in North Africa have some possibilities of development, but so far have been a heavy drain on the treasury. These include Libya (better known as Tripoli), conquered from Turkey in 1911, Eritrea, and Italian Somaliland. Many Italians emigrate to French Tunis, but the bulk go to the United States, Argentina, and Brazil.[1] The cutting of the Suez Canal, the tunneling of the Alps for railways, and the construction of an Italian railway system have improved Italy's economic position from the low point of early modern times, but it is difficult to see how, without coal and iron, she can ever rank with England, France, or Germany as an industrial and commercial power.

From her imperial eminence in early modern times, Spain has fallen to the status of a third-rate power, with a foreign trade only a little over half that of Denmark. She is a country of labor disputes and political upheavals. The last of her really valuable colonies were torn away by the United States

[1] Due to American immigration restrictions, the exodus to South America has increased since the World War, and there has also been a very considerable emigration to Southern France.

in the war of 1898 or sold to Germany soon afterward. She retains the Rio de Oro, Spanish Guinea, two zones in Morocco, and a few islands off the African coast. The largest items in her export trade are foodstuffs, various minerals and metal goods, cotton and cotton textiles (importing much of the raw material from America), and wool (raw and manufactured). The iron and steel industry has prospered since the war. Spain turned out almost as much ore as Luxemburg in 1922, and more than a fourth as much coal as Belgium in 1923 and 1924. She also has deposits of lead, copper, tin, manganese, sulphur, mercury, phosphorus and other minerals. Small *métayer* tenancies, scattered holdings, and a growing system of middlemen who rent blocks of land for sub-leasing, somewhat as in pre-war Rumania, make up one of the worst land systems in Europe. Some development of the considerable opportunities for water-power sites has taken place, and there are natural possibilities for intensive agriculture. Spain's disasters in Morocco, especially following 1921, cost her vast sums of money. Her currency remained more stable than those of France, Italy, or Belgium, however, and she finally managed to recover her position in Morocco, thanks to French aid in 1925 and 1926.

Portugal is quite similar to Spain in the backwardness of agriculture, and two thirds of the population (a trifle under 6,000,000) is rural. Her economic significance lies chiefly in the fact that she still retains what is potentially an extremely rich colonial empire: 823,334 square miles, with some 8,000,000 people, in Africa; and 8933 square miles, with a population of 950,000 in Asia. Mozambique, or Portuguese East Africa, is in a strategic position on the coast, where it carries a large fraction of the trade of the Transvaal. There are rich coal deposits and some copper; and its population of over 3,000,000 will some day export great quantities of sugar cane, rice, coffee, rubber, tobacco, cocoanuts, wheat, cattle, and probably cotton. Angola, or Portuguese West Africa, has an area equal to Texas, California, and Washington combined. It contains extremely valuable forests. The coastal

region already exports rubber, sugar, cotton, coffee, tobacco, palm oil, cattle, hides, ivory, and gum.

The Portuguese East Indian possessions are similar in products to those of England and the Netherlands. Besides a number of islands, they include Goa, Damio, and Timor in India proper. As is usual in cases where colonial administration is not self-supporting, commercial regulations vastly more than compensate for the deficit, throwing trade to home ports.

Practical autonomy is enjoyed by the Portuguese colonies — in sharp contrast to the illiberal policies of the great days in early modern times. Germany had the bulk of the outside trade with Portugal's colonies before the war, and seems likely to recover it, especially as she now has no colonies of her own to divert attention. Portugal's economic weakness and backwardness at home raise the question whether the development of these oversea possessions will not enrich the great foreign trading and industrial powers rather than the home country. This is particularly true since the inauguration of the policy of autonomy in 1919. Should Portugal ever decide to give up colonial territory, there is a long series of agreements with Great Britain which suggest the latter as the most probable heir.

THE BREAK-UP OF AUSTRIA-HUNGARY

When the old Austrian Empire gave way to the Dual Monarchy of Austria-Hungary in 1867, the Industrial Revolution had already made some headway in the part assigned to Austria — particularly the regions bordering on Germany. The new Hungary of 1867, on the other hand, was an agricultural country, with many vestiges of feudalism and almost no industrial capital. Hungary favored free trade, since she found it necessary to export her produce in exchange for manufactured goods. Austria caught the general protectionist fever of the late seventies, and the Hungarians worked around to the same position during the slump in grain prices at the turn of the decade. Some liberal economic legisla-

tion had been adopted in the period 1872–75, but from 1885 on, it gave way to a system of protective tariffs and subsidies. Hungary having no protection against Austrian industry, the latter's lead was largely maintained.

In the economic system which grew up during the next thirty years, Austria was in a general way the manufacturer and Hungary the farmer. The whole Dual Monarchy was tied together with an intricate network of roads, railways, and navigable waterways, centering on Vienna and Budapest, with the heaviest traffic of all between the two capitals. The three great ports of Trieste, Fiume, and Pola on the Adriatic, with some smaller ones, built up a considerable sea-borne trade, with a shipping tonnage about equal to that of Belgium. More than half of Austria's trade was with Germany.

Even at some danger of overlapping accounts, it is imperative at this point to call attention to the great significance of Turkey and the Balkan countries in Austro-Hungarian economic development. What is technically known as the "Balkan Peninsula" is roughly the territory south of a line running eastward from the neighborhood of Fiume (near the head of the Adriatic Sea) to the Kulpa River, down the Kulpa eastward to the Save, and following it and the Danube to the Black Sea. It will be observed that nearly all of Rumania lies north of the Danube, outside this "peninsula"; but most American and some English writers group her for convenience with the "Balkan" countries because of the similarity of her situation, history and mode of life. A good many of the economic, political, and social realities of southeastern Europe are inherited from the shrinkage of this part of the Ottoman Empire since 1683, when it included nearly all of Hungary and reached almost to the gates of Vienna.

At first, the Habsburg and Romanoff dynasties were the great organizers of victory over the Sultan's armies, taking over the liberated territories and peoples as a matter of course. Thus, by 1815, Russian territory extended southwestward to the Pruth River, including the Latin-speaking Rumanians of Bessarabia; Austrian territory reached the

Carpathians and Transylvanian Alps, the Danube as far down as the Iron Gate and the Save farther west, including also Illyria or the eastern shore of the Adriatic Sea. When the main bodies of Germans and Italians threw off Habsburg rule in the 1860's, a large fraction of the remaining empire consisted of lands and peoples taken at one time or another from the Ottoman Turks. Included were the Rumanians of Bukowina and Transylvania, most of the Magyars or Hungarians proper, and many South Slavs (or Jugo-Slavs — Serbs and related peoples). In the reorganization of 1867, Hungary gained her autonomy, and with it the welcome but difficult task of ruling other groups earlier liberated, like herself, from the Turks.

Two main factors checked the absorption of Ottoman lands by Russia and Austria (besides rivalry with each other): first, the heightened economic interest of other great powers in the question, and, second, the rise of Balkan nations. France had made an arrangement with the Turks for exclusive trade privileges in Egypt as early as 1528, and it had been extended to the whole Ottoman Empire in 1535 as part of a general alliance treaty between Francis I and Suleiman the Magnificent. The "capitulations" with Turkey, as the body of special privileges was called — several times renewed, and greatly extended in 1740 — formed the cornerstone of French Near-Eastern policy. They were still nominally in force on the eve of the Crimean War of 1854–56. Dormant for a time during the bankruptcy of the old régime and the disorders of the Revolution, French interest in the eastern Mediterranean was dramatically revived by Napoleon. This prince of trouble-makers stirred up the feeling of nationality in the Balkans to embarrass the Turks immediately, but in the end it plagued the Austrians and Russians even more. The capitulations had been fundamentally economic in the beginning, and so they remained.

William Pitt the Younger had shown signs of alarm over the Russian drive toward Constantinople as early as 1790, and had been inclined to abandon the traditional benevolence

of England toward Russian expansion. Napoleon riveted English concern permanently to the Near East, however, when he occupied Egypt in 1798, proposed to overthrow Turkish rule on both sides of Suez, and to open and improve the ancient canal connecting the Mediterranean and Red Seas. This would be a shorter route to India. From her careless unconcern for the Ottoman Empire, Great Britain became its main prop, maintaining this rôle until elbowed out of it by Germany at the close of the nineteenth century. It is significant that the British policy of keeping the Straits and the other keys to the eastern Mediterranean in weak hands was as well served by the rise of small Balkan nations as by the lingering malady of the Ottoman Empire. Thus Downing Street was inclined to favor the *status quo* in the Balkans, willing, however, to countenance some modifications on behalf of the small countries, but obstinate about material advances of Austria or Russia. In this, she was protecting her interests in the East Indies.

In spite of Austrian opposition, Greece had achieved her independence by 1830, and Old (northern) Serbia a large measure of autonomy. Mohammedanism had never taken any considerable hold in these two regions, in the Bulgaria which was to appear as an autonomous province after the war of 1877–78, or in the Rumanian principalities. The land system found by the Turks on their arrival in southeastern Europe had been a blend of the Slavic village community with, doubtless, elements of the Roman-Byzantine colonate, and some feudal arrangements which had arisen with the decay of government at Constantinople. Old Serbia, a poor, land-locked region, purely Slav in population, retained its village economy under the Turks, with a tribute system superimposed to furnish taxes for the Ottoman Government. Practically the same conditions held for Bulgaria, Montenegro, and Herzegovina. Bosnia had larger holdings and was more feudalized — perhaps because its land is richer. The Rumanian principalities were the bonanza of the Constantinople-Greeks (Phanariots) who exploited them down

to 1821. Peasant lands were extortionately taxed and then confiscated for non-payment. In the early nineteenth century, the region had become one of great estates, reminding one of a large part of Russia at the same period. Serfdom prevailed, and methods of cultivation were crude. Turkish economic policies in Europe were greatly complicated by racial and religious differences, erecting a barrier which made serfdom particularly hard.

After the Straits were fully opened to commerce in 1826–29, Rumania had the advantage of a sea outlet, as did Bulgaria also later on. The South Slav lands, however, were economically almost entirely at the mercy of Austria, being hemmed in by the mountain ranges which parallel the east coast of the Adriatic. The good roads which had crossed these mountains in Roman and medieval times had long since fallen into ruin, and railway construction would have presented great engineering obstacles, even for a rich country. As a result, Serbian life was kept quite primitive, and the small surplus — largely stock, grains, and products of house industry — had to pay Austro-Hungarian tariffs to get to Fiume or Trieste on the sea, or into the heart of Europe by rail. Even the Danube outlet was poor, because of natural transportation difficulties and Habsburg interference at the Iron Gate, and also because the river bends far north before reaching the Black Sea. To the south was Macedonia, in Turkish hands up to 1912, and the Bulgarians on the east had been traditional enemies since the unprovoked Serbian attack of 1885 upon them. Moreover, the two were rivals for Macedonia, a land of Slavs who were neither Serbian nor Bulgarian, and of whom many were Mohammedan in religion.

The turmoil and misfortunes of this region, proverbial in recent times, date from the incursion of a few alien Turks and the shift of Oriental trade from the eastern Mediterranean to the cheaper Atlantic route. Its prosperity and high civilization late in the Middle Ages, centuries after the arrival of practically all of the present human groups, should

put us on our guard against the baseless generalizations so often printed about "mongrel" and "degenerate" strains of people. The economic and social effects of centuries of unfortunate history are rapidly passing away. If the amazing progress achieved in the fifty years before the World War is duplicated in a period of equal length following it, there is no reason to suppose that the Balkan Peninsula will then be regarded as a "backward" region.

The old kingdom of Serbia forms a very important corridor for railways connecting central Europe with Salonica and Constantinople. Austria-Hungary got possession of (but not a title to) Bosnia and Herzegovina in 1878, so that she had more South Slavs under her rule than there were in the kingdom of Serbia formed at about that time. These South Slavs of Austria-Hungary were largely Roman Catholic or Mohammedan, in contrast to the Serbian Greek Catholic or Orthodox faith. They also differed from the Serbs in economic ways and in the method of writing the language; but they belong to the same "race," if one may still use that much-abused word to distinguish between white peoples. Austria-Hungary annexed Bosnia and Herzegovina in the midst of the Young Turk Revolution of 1908. This was the usual thing for a European power to do under the circumstances, but it was naturally a bitter disappointment to the Serbs, who had hoped something might turn up to prevent the lapse of this particular protectorate or mandate into ownership. The rivalry between Serbia and Austria-Hungary was one of those unfortunate products of history which seem to be unavoidable until the organization of mankind shall have passed beyond its present crudity and looseness.

William II, who came to the German throne in 1888, inherited the alliance with Austria and Italy. His Government immediately began cultivating a friendship with the Ottoman Turks which it was hoped might provide openings for German capital and help to make up for the want of colonies. After the (partially secret) treaty of 1904, the British and French Governments stood together against any German interfer-

ence with their plans for the partition of Africa. The Anglo-Russian partition of Persia and other arrangements in Asia in 1907 brought England definitely into the Franco-Russian camp as an opponent to central European economic penetration of the Near East. The year 1903 saw the Constantinople–Bagdad railway enterprise definitely launched, the French and English declining the German invitation to participate, which made the venture purely a central European one. With this vast scheme under way, the Serbian corridor to Constantinople became more vital than ever.

Another event of 1903 practically destroyed any chance of cordial Serbian coöperation in the new economic highway to Asia. This was the assassination of the old Serbian royal family, which had been friendly to Austria-Hungary, and the crowning of the Slavophil Peter Karageorgevitch. From this time, Serbia was definitely in the camp of Russia. The immediate effect was an intensification of the tariff struggle with the Dual Monarchy, leading to the famous "pig-war" of 1905. In 1906 Serbia signed an economic convention with her old enemy, Bulgaria, followed by similar arrangements with most of the other European countries. Italy, however, a member of the central European Alliance, was opposed to a strong South Slav group, and had designs of her own for an Italian Adriatic which were later to bring her into open conflict with Austria-Hungary.

Following the Austro-Hungarian announcement of the annexation of Bosnia-Herzegovina, the Russian Government made a half-hearted show of force, but advised the Serbs to await a more auspicious occasion when it became evident that Germany meant to support her ally. Russia of 1908–09 was still badly crippled in a military way from the war with Japan. After this annexation, the respective alliances back of Austro-Hungarian and Russian economic imperialism in the Balkans were pretty well committed to programs so opposed to each other that neither could be carried out without upsetting the balance of power in Europe. Under such circumstances, it is common to fight rather than accept defeat

and humiliation without a blow. If Russia should get to Constantinople, she would cut the Berlin-to-Bagdad project in two. On the other hand, if this route were ever well established by the Central Powers, it would lie squarely across Russia's long hoped-for exit to the Mediterranean. Moreover, it would enable the Turks to mobilize quickly, and perhaps to balk Russian schemes in Armenia. For the swifter traffic — both passenger and valuable freight — it must inevitably compete seriously with British and French sea routes to the Near East, and also to the Far East via Suez.

The logic of both schemes pointed unerringly to a rearrangement of the map of South-Central Europe which would be hard to carry out peaceably. Russians and Serbs longed for a break-up of the Dual Monarchy, which would leave groups of South Slavs to be annexed by Serbia. This would put a strong Slav barrier in the Balkans between Germany and Turkey and threaten the Bagdad project, which, far more than a mere railway, was a scheme of economic development for the entire Near East. Austria-Hungary would certainly fight before submitting to dismemberment, and Germany had too much at stake in the Near East to stand idly by. Serbian revolutionary propaganda among Austro-Hungarian subjects was hotly resented by the Government, just as German and Russian propaganda abroad have been since. The murder of the heir to the Habsburg throne by students who came from Belgrad for the purpose, smuggled in firearms and bombs from Serbia for the commission of the crime, and belonged to a secret society with such avowed aims, seemed to the group at Vienna to substantiate its worst apprehensions.

That the whole vast economic fabric in the Near East, shaped by years of toil, was felt to be threatened in 1914, and that the very existence of the Dual Monarchy was deemed to be at stake, are the things we should keep in mind. In attempting to discipline the Serbs, Austria-Hungary precipitated a war with Russia, whereupon both great European al-

liances were immediately involved, in accordance with long-standing agreements. Even the military treaties were of secondary importance, for the conversations and loose arrangements of a few British statesmen with France and Russia proved as binding in fact as the solemn, detailed secret pacts between France and Russia, Austria-Hungary and Germany.

As far as sympathies were concerned, several European powers would have fought us as cheerfully when we attacked Spain in 1898; but they had less at stake. It is not sympathy which makes wars. Those who like to view states as moral persons will doubtless see something like poetic justice in the fact that the Governments at Vienna and Petrograd, which *made* war inevitable by acting on the theory that it *was* inevitable, both perished in the struggle. To the historically minded, interested in what actually occurred and why rather than in analogies drawn from private morals, the central reality will continue to be that neither European alliance could afford to see the Near-Eastern situation upset in favor of the other.

The economic "Central Europe" we read so much about during the war was, then, a very obvious, natural, and long-standing development, about to enter upon a new stage in its career with the completion of the Bagdad Railway. This was well known to some people all over the world, but they were chiefly the well-informed few, and the fact had practically escaped popularization until a distorted version of it became useful as war propaganda. Various groups in Germany and Austria-Hungary naturally differed as to what should be done with the great economic organization which was taking shape, and of course there were many shades of opinion in Russia and among her allies as to how far opposition might be carried and what forms it should take. The most casual student of British and Russian policies during the nineteenth century can hardly fail to see that the modernization of Turkey was directly contrary to both. With a system of railways to swiftly mobilize well-trained troops,

and a modern economic order to support them, the Ottoman Empire would cease to be the "sick man of Europe," a tottering power whose position at the Straits might be viewed with hopeful complacency.

Austria-Hungary was a first-rate power in 1914, with an area of more than a quarter of a million square miles and a population of about fifty-one millions. She had great factories turning out half a billion dollars' worth of products annually. A glance at the character of these goods shows us a highly developed economic order. Included were glassware, fine hardware and implements, musical and scientific instruments, jewelry, chemicals, and textiles. Austria stood next to France in the manufacture of gloves. Cotton spinning alone turned some 2,400,000 spindles, and the brewing industry was the finest in the world. There were nearly 28,000 miles of railways, a system not only itself a unit, but also part of a great unified network of all kinds of transportation facilities, making the country an economic whole which could not be divided without great loss. After four years of war, costing Austria-Hungary over twenty billions of dollars and 1,100,000 lives, this historic economic unit was broken up. To be sure, it was polyglot from the standpoint of language and customs, but so is Switzerland. Outside of the northern manufacturing fringe, mostly German and Czech (Bohemian-Moravian), life was often fairly primitive. For example, there were important vestiges of the strip system of agriculture in parts of Austria, but the government was systematically encouraging consolidation, with notable success by 1914.

THE SUCCESSION STATES

The shrunken Austria of 1919 was left landlocked, with some 6,500,000 people and only 32,000 square miles of territory. In other words, she has about a million and a half more people than pre-war Serbia, and some 10,000 square miles less territory. About 10 per cent of her land is completely unproductive from an agricultural point of view, 38 per cent is forest, and over 16 per cent covered with Alpine pastures,

swamps, ponds, etc. The 35 per cent available for cultivation produces only about 40 per cent of the necessary food. Trade with Russia is entirely at the mercy of intervening states, and has disappeared for the time being. Austria was at first too poor to buy much grain from Hungary, and Germany has not enough for herself. Left with the Erzberg iron ore deposits, Austria was cut off from the coking coal for smelting them. Merely for such purposes as heat, light, and street railways, she found herself in need of something like a million tons of coal a year, of which she was able to produce only about a quarter. To get her industries going, and thus provide sustenance for a dense population, proved a very complicated problem.

Vienna, as an imperial capital and manufacturing center, had over two million inhabitants before the war — or about a third of the entire population of post-war Austria. The suffering following the peace treaty was incredible. A systematic examination of 144,947 school children in 1920 showed an appalling prevalence of diseases due to malnutrition: 22.8 per cent were described as being "very ill-fed" and 56.1 per cent more as "ill-fed" — that is, nearly 80 per cent were not getting the amount and kind of food necessary to preserve health and vigor. By 1922 the economic situation had grown so hopeless that a large number of loans were made to Austria by other countries, and the Reparations Commission released certain assets from the general obligations involved in the peace treaty. At the end of 1923, the League of Nations' plan for rehabilitating Austria was adopted. An international loan of some $126,000,000 was guaranteed by Great Britain, France, Czecho-Slovakia, Italy, Belgium, Sweden, the Netherlands, and Denmark, to be covered eventually by designated resources, subjected to some financial control from outside.

The paper crown, face value 20.3 cents, had fallen to 7 cents at the time of the Armistice, to less than .02 cents by March, 1922, and to .0014 cents in October, 1923. A new bank was organized and a gold reserve collected. The print-

EUROPE
1925
Scale of Miles
0 100 200 300 400 500
ARCTIC
ARCTIC CIRCLE
ATLANTIC OCEAN
NORTH SEA
MEDITERRANEAN SEA
BAY OF BISCAY
ENGLISH CHANNEL
BALTIC SEA
ICELAND (Den.)
Reykjavik
FAROE IS. (Den.)
SHETLAND IS.
ORKNEY IS.
HEBRIDES
SCOTLAND
IRELAND
Glasgow
Belfast
Dublin
Cork
Edinburgh
Liverpool
Manchester
ENGLAND
WALES
IRISH SEA
London
The Hague
NETHERLANDS
HELGOLAND (Ger.)
Amsterdam
Rotterdam
Antwerp
Brussels
BELGIUM
LUX.
Cologne
Leipzig
Berlin
Hamburg
Kiel
Danzig (Free City)
Dresden
Prague
CZECHOSLO
Frankfort
Munich
Vienna
AUSTRIA
Lyubljana
HUNG
Trieste
Fiume
Zagr
YUGOS
Venice
Milan
Genoa
ITALY
Zara
ADRIATIC SEA
Tirana
Rome
Naples
Palermo
SICILY
Str. of Messina
CORSICA
SARDINIA
BALEARIC IS.
Barcelona
Marseilles
Lyons
Geneva
Bern
SWITZERLAND
FRANCE
Paris
Havre
Bordeaux
Loire
Seine
Rhone
Elbe
Oder
Danube
Drave
Save
Aare
Rhine
Moselle
Main
Weser
Elbe
Skager Rack
Kattegat
Gothenburg
Copenhagen
DENMARK
Trondhjem
Bergen
Oslo (Christiania)
LOFODEN IS.
SWEDEN
NORWAY
Stoc
Oporto
Douro
Lisbon
Tagus
PORTUGAL
SPAIN
Madrid
Valencia
C. St. Vincent
C. Finisterre
Guadalquivir
Malaga
Str. of Gibraltar
Gibraltar (Br.)
Algiers
Tunis
Fez
Morocco
AFRICA
MALTA (Br.)
10° Long. West 0° Long. East 10° from Greenwich
40°
30°
20°
10°
0°
10°
50°
40°

30°
40°
50°
60°
70°
80°
OCEAN
ARCTIC CIRCLE
WHITE SEA
Archangel
Mezen
Dvina
L. Onega
L. Ladoga
Leningrad (St.Petersburg)
Reval
ESTHONIA
L. Peipus
Riga
LATVIA
Kovno
Vilna
Minsk WHITE RUSSIA
Moscow
Nijni Novgorod
Volga
Tula
Kazan
Perm
Kama
Ufa
Samara
Orenburg
Ural
Tobolsk
Ob
Irtish
SIBERIA
ASIA
Saratov
Yaik
ARAL SEA
CASPIAN SEA
Astrakhan
Kharkov
Kiev
Donetz
Don
Dniester
Lemberg
Odessa
SEA OF AZOV
Crimea
Sevastopol
Caucasus Mts.
Georgia
Baku
AZERBAIJAN
ARMENIA
Batum
Erivan
BLACK SEA
Danube
Bucharest
BULGARIA
Adrianople
Constantinople
Trebizond
Erzerum
Angora
Saloniki
Dardanelles
Smyrna
AEGEAN SEA
Athens
CRETE
RHODES
CYPRUS (Br.)
Euphrates
Tigris
TURKEY
RUSSIA
POLAND
FINLAND
Gulf of Finland

ing of paper money was rigidly controlled. Governmental economies, including the reduction of personnel, were carried out. New tariff schedules were passed, and the whole fiscal system overhauled. Both unemployment and the cost of living were reduced, wages rose slightly; agriculture, manufactures, and exports all showed improvement, and people began to save again. Saving money, or anything except goods of comparatively stable value, is foolish where the currency is rapidly depreciating, as a dollar saved to-day may buy only fifty cents' worth to-morrow and one cent's worth or less a year hence. By the summer of 1924, a limited amount of silver money was again in circulation in Austria. Most of the Austrian war loans had been practically wiped out by paying them off in paper crowns. Following a report by two economic experts, Charles Rist and W. T. Layton, the Council of the League of Nations voted in 1925 to withdraw League supervision the middle of 1926. It was specified that the tutelage might be renewed by a three-fourths vote of the Council if deemed necessary. Most of the conditions were met by Austria in 1926, and League control was practically withdrawn. The greatest remaining problem was the tariff frontiers with other states.

While Austria is bound to be a relatively weak state, with the gravest of economic problems to solve, her situation is far less desperate since the League of Nations' plan was put in force. The success of this international rescue led to a similar proposal for Hungary, and finally many of the same principles were applied to Germany under the Dawes Plan. The two main special difficulties in the case of Hungary, and especially of Germany, are the sums exacted under the peace treaties of 1919 — still unpaid — and the fact that both states are still potentially so powerful that their neighbors are afraid to name any price at which full sovereignty and freedom from arbitrary military interference may be purchased.

With Austria's South Slavs and Italians went her access to the sea, besides important resources. Poland got the Gali-

cian oil fields and a corner of the Upper Silesian coal field from Austria, and the bulk of this field from Germany — the rest of it going to Czecho-Slovakia. While it is true that the current economic order creates dense populations which a stoppage is likely to leave without means of support, those who cite post-war Austria as horrid evidence that we should turn back to community self-sufficiency are either ignorant of the Middle Ages or trying to impose upon us. The same transportation system which concentrates people and makes specialists of whole regions is also able to relieve those regions in case of need. A crop failure on the medieval manor meant distress, and more than one in succession spelled starvation. There is probably no case in history where a large group of people suffered so little, or for so short a time, from a halving of the means of subsistence, as lately in Austria.

Czecho-Slovakia, a newly formed state with 13,000,000 inhabitants, got the cream of the industrially developed part of old Austria (that is, Bohemia, Moravia, Austrian Silesia), and also the important iron deposits and forests of Slovakia, formerly a part of Hungary. Before the war, the territory now incorporated in Czecho-Slovakia imported between ten and eleven millions of bushels of bread cereals (wheat and rye) annually. Barley was an important article of diet; the amount produced (60,000,000 bushels) being almost equal to that of rye (61,000,000 bushels) and far superior to that of wheat (38,000,000 bushels). Oats led other grains by several millions of bushels, but the production of corn hardly ever reached 10,000,000 bushels. From one year to another, the production of potatoes surpassed that of the five cereals put together.

The effects of the war upon agriculture were after the usual pattern. Wheat production had been stimulated through price-fixing by the Government during the war, to feed the cities and the army. Later, it was decided to requisition wheat and rye from the Czech peasants, and the yield fell off about fifty per cent from pre-war averages. The poor crop of 1917 doubtless had more to do with the Austro-Hungarian

war-weariness and final collapse in 1918 than many dramatic factors given more space in the histories. Live stock were also requisitioned in large numbers — the nature of war operations and the practical necessities of a commissariat cause the same man as a soldier to consume far more meat, as well as wheat and wool than he would as a peasant, artisan or laborer. There was a terrific cut in the numbers of cattle, hogs, and sheep between 1914 and 1918. A rapid increase set in after the war, and there was probably more live stock in Czecho-Slovakia by 1923 than in the same territory in 1914. As in western Europe, the period following the war saw a marked shift from grain crops to stock-farming and a fall in the acreage used for cereals. The wheat yield per acre is still low enough (average a little over 20 bushels per acre) to suggest the possibility of self-sufficiency as to fundamental foods. The average per acre is far higher for the territories taken from Austria alone than for the whole country, agriculture being more primitive in Slovakia and Ruthenia.

Bohemia, Moravia, and Austrian Silesia formed about a fourth of 1914 Austria; yet they produced 35 per cent of the wheat, 59 per cent of the barley, 48 per cent of the rye, 90 per cent of the sugar beets, and 32 per cent of the potatoes. Bohemia alone produced 80 per cent of the hops, 75 per cent of the fruit and half the flax. Bohemia and Moravia together raised 8 per cent of the world's sugar beets just before the war. Slovakia, though a ruder country, supplements Czech economic resources in a vital way. Besides crops of tobacco, flax, and wine, Slovakia provides more than a third of the wheat and also of the barley, a trifle less than a third of the potatoes, a quarter of the cattle, nearly nine tenths of the sheep and of the maize, of the whole country.

Besides getting the richest lands and many of the great industries of old Austria, Czecho-Slovakia inherited over half of the iron ore and nearly nine tenths of the soft coal. Her most promising future would seem to be as an industrial state like pre-war Germany rather than as a predominantly agricultural one like France or Italy. The population is far

denser than that of France, and when the new country gets economically adjusted to independence, it should be less rural in its mode of life. Only about 40 per cent of the population is engaged in agriculture, and the figure for that part of the country which was formerly Austrian would be much lower still.[1]

The two great problems are to establish east-and-west transportation facilities within the country, and to build up satisfactory commercial relations with the outside world. The peace settlement provided for access to German ports on the Baltic and North Seas, for unhampered use of the Danube and Elbe river systems, and for outlets to Trieste and Fiume on the Adriatic. Perhaps no state has so heavy a stake in the pacification and reconstruction of Europe in line with these liberal ideas as does Czecho-Slovakia. She is long, narrow, and landlocked. Her territory would be difficult to defend from military attack. Industrial development and want of ports lay her particularly open to the old type of economic strangulation, such as practiced earlier by Austria-Hungary and Italy upon Serbia. Next to Great Britain, no country has a greater interest in stabilizing the currencies and helping the new Russia to find her true place in world economic life than Czecho-Slovakia.

Compared with surrounding states, Czecho-Slovakia's currency has been exceptionally high and stable in value. With a par of 20.26 cents, the crown has exchanged at about 3 cents from 1922 to 1927. The Austrian crown, with the same face value, dropped below the two-thousandth part of the above figure, and was finally stabilized in 1925 at more than 70,000 to the dollar. The Polish mark (par 23.8 cents) was pegged in 1924 at 1,800,000 per *zloty* of 19.3 cents, but the *zloty* itself exchanged at around 11 cents in the fall of 1926.

[1] Czecho-Slovakia has adopted state insurance against sickness and old age, the system going into effect in 1926. She was one of the states which partitioned the great landholdings, nearly a million acres being parceled out in 1923 and 1924. Unemployment benefits were a heavy burden at the height of the post-war economic depression when nearly half a million were out of work; but this situation was practically corrected by 1925.

German paper marks (par 23.82 cents) were finally revalued in November, 1923, at the astronomical figure of 1,000,000,000,000 to one gold mark.

Rapid decline of currencies in near-by states injured Czecho-Slovakia in two specific ways, besides the general effect on trade: it made the export of manufactured goods difficult because of the abnormally low gold prices in neighboring countries; and for the same reason it made the importation of agricultural produce too easy — to the prejudice of the farming population at home. Thus, while some countries of central Europe had to protect themselves from being stripped of raw materials and foodstuffs because of the fall of their own currencies, others tended rather to be deluged because the moneys of surrounding states fell faster than their own. Alongside some positive effects of inflation upon industry, trade, and the fiscal system, there are others which depend upon the *relative* rates of decline in exchange in various countries which do business with each other. Arbitrary trade control between Germany and Czecho-Slovakia was found necessary for a time, but the need disappeared when the Germans began to figure their prices in gold marks. Due largely to the pacific and constructive policies of several exceptional statesmen, Czecho-Slovakia probably suffered least of all the succession states of central Europe during the period of economic readjustment.

Hungary's case is particularly interesting because it has been so carefully observed, due to League of Nations supervision during the critical period of readjustment. Her area was reduced by the peace from 125,600 to 35,000 square miles, and the population from over 20,000,000 to between 7,000,000 and 8,000,000. By 1925 she had over 8,000,000 people, the number having been increased by immigration from the detached regions. Though the population was 11 per cent larger than in the same area before the war, the number of people below 15 years of age was actually smaller. This tends to give her an abnormally large percentage of producers in this generation, at the expense of the next. The

ostensible and obviously temporary economic advantage comes at a time when Hungary is least able to profit by it; and the increased density of population (which may or may not be temporary, depending upon the birth rate) comes at a most embarrassing time. Post-war Hungary is slightly smaller than the State of Indiana, with a population (1925–26) about a million greater than that of Illinois and slighter above that of pre-war Rumania. Considering these figures, together with the fact that Austria is an even weaker fragment of the old empire, we can see a certain suggestiveness in the expression that this part of central Europe has been "Balkanized."

We are less concerned here with the blocks or fringes of Hungarians (Magyars) put under Czecho-Slovak, Rumanian, and Jugoslav rule than with the "Balkan" economic situation of the new Hungary. She is landlocked, like Austria, depending upon international agencies or good will for access to world markets. One good coal field remains (about Pecs in the south), but most of her iron ore is gone. Her forests and sources of water power were largely removed with the surrounding fringe of mountains — also leaving her no easily defensible frontiers. Another serious aspect of the loss of the head waters of rivers is that the keys to a highly organized system for controlling floods have thus passed out of Magyar hands. With the exception of flour mills and some important mechanical industries at Budapest, most of the manufacturing centers have passed to succession states. Much of the finest agricultural land of old Hungary was on both sides of the lower Theiss River, a region now divided between Rumania and Jugo-Slavia. In drawing the new boundaries, a good deal of violence was inevitably done to the transportation system and to the regional interdependence of this part of Europe as nature decrees it and history has shaped it. Some of the violence was not so "inevitable" from the economic point of view; but peace treaties are also political arrangements. Fragments of railway were left on one side of frontiers where they were valueless without the rest of the

While the area has been cut to 32.2 per cent and the population to a little over 40 per cent of the former totals, it may be noted that some fundamental economic resources were reduced more than proportionately. For example, only 14.3 per cent of the former wood remains, somewhere between 6 and 10 per cent of the iron, and practically none of the salt, gold, silver, copper, antimony, or manganese. Much larger percentages of other resources were kept, however, so that on the whole the cut was roughly in proportion to that of population; but the new Hungary is a somewhat different *kind* of economic unit. Hungary's reconstruction difficulties were undoubtedly aggravated by the Bolshevik régime of Bela Kun in 1919, accompanied by an Allied blockade and followed by both political turmoil and troubles with suspicious neighbors.

As elsewhere in the Dual Monarchy, the number of live stock declined sharply in Hungary toward the close of the war. It decreased still further during the radical régime following March, 1919, and as a result of Rumanian requisitions after the beginning of August of the same year. According to a report of the United States Department of Agriculture, there were 11.6 per cent fewer cattle in Hungary in 1920 than in the same area in 1911. The wheat-producing acreage had declined 15.8 per cent from 1911, the drop reaching 19.6 per cent in 1922. This was partially due to a shift from grain crops to maize, potatoes and beets in the presence of tariff barriers to grain shipments and the poverty of the older customers. On the other hand, this cut in grain exports resulted in a decline in the importation of textiles and other commodities — and hence encouraged various industries, notably textile manufacturing. Probably this part of Europe was the poorer for these forced changes in the international division of labor; but we are here concerned merely with the fact.

The choice of the single year of 1911 by the Department of Agriculture as a basis of comparison gives a somewhat exaggerated idea of the decline in grain production. If we use an average of the years 1911–15, we find the total area used for

agricultural crops practically the same by 1925; but the grain area was still about 8 per cent lower and that devoted to maize, potatoes, and beets about as much higher. This is not a loss, but a shift, and has been explained above. On the other hand, the production *per acre* was still far from the pre-war level by 1925, and the *per capita* production still lower — the latter, of course, because the population was over 10 per cent larger and the crop acreage the same or slightly smaller. A League of Nations expert figured out that the per capita production was about two thirds as large in 1924 as in the pre-war years, and estimated the average yield of agricultural crops in 1925 at about a fourth below that of 1911–15. One reason for this is that the soil of Hungary requires phosphates, as well as some other fertilizers which have to be imported. From about 14,000 carloads of imported phosphate rock used within the present boundaries of Hungary in 1913, the amount was reduced to zero for eight years, and had risen to only 4500 carloads in 1924. It would take a long time to repair the damage of those eight years, even if the imports of phosphates were put enough above the 1913 level to make up for the scores of thousands of carloads which were not applied at the proper time. As a matter of fact, imports have remained far below the pre-war level.

Like the destruction of human life, and more than that of forests, soil-mining is one of the effects of war which is incalculable, and may be even irreparable. We can hope for a restoration of Hungary's agricultural production per acre within a few years. Per capita production is quite a different matter, and a more difficult one. The urban population of the new Hungary is relatively large, and has been increasing faster than in the rural districts. There may be more excuse for great industrial cities if the European tariff walls can be lowered. Otherwise, wages and per capital industrial output may remain relatively low, and the tendencies toward a multiplication of middlemen and a reliance upon state aid rather than enterprise are very likely to continue. A livestock situation can be restored rather rapidly. By 1926

Hungary had probably approached the limit set by forage production and pastures.

The industrial situation is much harder to get into pre-war terms. Most of the official figures are on the basis of values; but the price levels have changed, different commodities enter in and the same ones have not the same relative importance. Statistics by weight, even where available, are equally deceptive, because different commodities have such varying values by the ton or pound. The Hungarian Central Statistical Office gave the industrial production for 1924 as 1447 millions of gold marks, as compared with 1650 millions in 1913, or about 87 per cent. On the basis of pre-war prices, the actual volume of production would be about 60 per cent, and the figure would be still lower per capita for the entire Hungarian population, which was larger in 1924. Some improvement has taken place since 1924. The new working day is a fifth shorter, the average efficiency of the worker is lower, and the industries which use cheaper labor have gained at the expense of the others since the war. Half of Hungary's population is engaged in agriculture, which should be given about four times the weight of urban industry in any estimate of economic production — five times if mining, forestry, and the rural and hand industries are included.

Hungary accepted League of Nations supervision in 1924, and was released from it June 30, 1926, with her budget balanced. The currency reform was complete January 1, 1927, with the final change to the gold *pengo* (par about 17.5 cents) in place of the crown, following legislation of November, 1925. Most of the stock of the National Bank of issue, founded soon after the American Supervisor of Finances under the League program took up his duties in 1924, was subscribed for abroad. The official discount rate was reduced from 11 to 9 per cent during the first year — though much higher interest rates are common, the National Bank having very limited control over the terms made by private institutions and people.

There has been a chronic excess of imports over exports, which is closely related to the rise of gold reserves and loans from foreigners. League control started out with a $50,000,000 loan (floated in July, 1924); a $10,000,000 loan was subscribed in New York a year later at 89, to yield 7.5 per cent interest for 20 years. Adding the five sixths of the Bank's capital stock owned abroad and a multitude of other foreign capital sums at work in the country, we begin to see how it is possible to stabilize finances in the presence of a chronically adverse balance in commodity trade, without the "invisible" elements familiar in countries like Great Britain from returns on investments and transport services. There is nothing necessarily unhealthy about the influx of foreign capital if it is used productively; but in the end, the process will be justified only if it results in increased exporting capacity. Borrowing abroad to furnish agricultural credits may be wise and productive if the capital is used to buy better equipment and employ more fertilizers. On the other hand, if it is used to buy land, the result may be an increase in consumption rather than production — depending upon the use of the purchase price made by the sellers.

Before we take up the question of land expropriation, one or two further outstanding facts about the foreign trade may be mentioned. Hungary's foreign commerce is still primarily with surrounding countries, as in pre-war times. In 1924 two thirds of it was with Austria, Czecho-Slovakia, and Jugo-Slavia. If we add Poland and Germany, we account for 85 per cent of the total. Much which is now foreign trade would have been internal before the break-up of the Dual Monarchy. Considering this shrinkage of frontiers, the proportion of foreign to domestic commerce should have increased; but it has decreased instead. Before the war the foreign trade was about 30 per cent of the annual production of wealth. In 1924–25 it was about 20 per cent. Among the various reasons for this are the high tariffs, the increased cost of transportation and the loss of purchasing power in former outside markets. This is one more illustration of the arti-

ficial and wasteful division of labor along national lines since the war.

The land reform movement which swept southeastern Europe following the war was more conservatively carried out in Hungary than elsewhere. Great estates were divided up, the land being distributed among war veterans, agricultural laborers, pensioned government employees, graduate agriculturists, and other favored classes. Many estates were found to be entailed, and this fact, coupled with the lack of any adequate compensation scheme, furnished grounds for a stiff legal and political resistance to the proposed reform. Count Teleki, one of the authors of the program, has stated that the Government deliberately avoided any arbitrary scheme for expropriating a fixed large area and parceling it out in plots of scheduled size. Such a plan, to be given some attention below in connection with Rumania, has grave immediate disadvantages. Its friends hold these to be more than counterbalanced, however, by the advantages of meeting all the difficulties of agrarian reform at once, in relation to each other, and getting them out of the way. During the two years following June, 1921, some 33,000 building sites, averaging a little over a quarter of an acre, were distributed, and about 190,000 acres more were divided up into peasant properties of $17\frac{1}{2}$ acres each and small holdings of $3\frac{1}{2}$ acres. Altogether, about four fifths of the area of the country has been affected by the land reform program from its inception following the war.

Two succession states of the old Dual Monarchy, Greater Rumania and Jugo-Slavia (technically "The Kingdom of the Serbs, Croats, and Slovenes") are still managed from the old capitals, Bucharest and Belgrade. Both Governments have resisted movements for autonomy among the more highly developed peoples they have annexed. Such being the case, we are on firmer ground historically in dealing with them as enlarged Balkan powers than we should be in viewing them from the angle of central Europe. Italy finally got the great ports of Austria-Hungary — Trieste and Fiume.

Galicia, added to the new composite state of Poland, is a region of considerable economic importance. Besides its rich agricultural lands, its forests and water-power sites, it has great mineral wealth and a good deal of manufacturing is carried on. The yield of petroleum is only slightly below that of Rumania, and is especially significant because of the poverty of the European Continent in this indispensable commodity.

SUGGESTIONS FOR FURTHER READING

General Works

*Bowman, Isaiah: *The New World.* [See Table of Contents.]
Busson, H., Fèvre, J., et Hauser, H.: *Les principales puissances d'aujourd'hui.* Chaps. VII, VIII, XIV–XVIII.
Day, Clive: *A History of Commerce.* Chaps. XLII, XLIII.
Irvine, H. D.: *The Making of Rural Europe.* Chaps. X–XII.
*"New Agrarian Legislation in Central Europe," *International Labour Review*, September 1922, pp. 345–63.

Belgium

Beer, G. L.: *African Questions at the Paris Peace Conference.*
Billiard, R.: *La Belgique industrielle et commerciale de demain.*
Bürklin, W.: *Handbuch des Belgischen Wirtschaftlebens.*
Clavier, C.: *La fortune Belge à la veille de la guerre.*
Gehrig, H., and Waentig, H.: *Belgiens Volkswirtschaft.*
Martel, H.: *Le développement commercial de la Belgique avec les pays étrangers.* 2 vols. (1894–1897.) Brussels, annual.
*Moulaert, G. (*et al.*): *La Belgique.* (Sections on Commerce, Finance, Industry and Colonies.)

Holland, Switzerland and Scandinavia

Annuaire Statistique de la Suisse.
Bosse, E.: *Norwegens Volkswirtschaft.*
*Day, Clive: *The Policy and Administration of the Dutch in Java.*
*Drachmann, P., and Westergaard, H.: *The Industrial Development and Commercial Policy of the Three Scandinavian Countries.*
Eggenschwyler, W.: *Die Schweizer Volkswirtschaft am Scheideweg.*
Faber, Harald: *Coöperation in Danish Agriculture.*
Geering, T., and Holz, R.: *Wirtschaftskunde der Schweiz.*
General View of the Netherlands. 25 pamphlets. Ministry of Industry and Commerce.
Guinchard, A. J. J.: *Sweden: Historical and Statistical Handbook.* 2 vols. Holland. Handbook by British Foreign Office, Historical Section, 1921.
*Howe, F. C.: *Denmark: A Coöperative Commonwealth.*
La Suède industrielle et d'exportation.

La Suisse économique et sa législation sociale.
Moore, B.: *Economic Aspects of the Commerce and Industry of the Netherlands, 1912–18.*
Norway: Official Publication for Paris Exposition.
Swedish Yearbook. Foreign Office, Stockholm.
Wernlé, G.: *La Suisse et nous.*
*Westergaard, H.: *Economic Development in Denmark before and during the World War.*
Wolcott, A. S.: *Java and her Neighbors.*

Italy and the Iberian Peninsula

Annuario Statistico delle cittá Italiene. Florence, since 1919.
Buchan, John (ed.): *Italy.* "Nations of To-day."
*Deakin, F. B.: *Spain To-day.* London (Labor Publishing Company.)
**Economic Resources of Italy* (1895–1920). 2 vols.
*Foerster, R. F.: *The Italian Emigration in our Times.*
Hazard, P.: *L'Italie vivante.*
Joliclerc, E.: *L'Espagne vivante.*
Lanino, P.: *La Nuova Italia Industriale.* 4 vols.
*Lemonon, E.: *L'Italie économique et sociale* (1861–1912).

Austria-Hungary and Succession States

(See also bibliography for next chapter)

Annuaire Statistique Hongrois. Budapest.
Austria: Annual Trade Report, Department of Overseas Trade, London.
Bordes, J. von W. de: *The Austrian Crown.*
Budapest Chamber of Commerce and Industry. Hungarian Commerce and Industry. (Excellent annual reports. Available in an English edition.)
Cesár, J., and Parkony, F.: *The Czecho-Slovak Republic.*
The Economy of Hungary in Maps. Ministry of Commerce, Budapest, 1920.
*Gratz, Dr. Gustav (ed.): *Ungarisches Wirtschafts-Jahrbuch.* (Budapest, beginning 1925.)
*Gruber, J. (ed.): *Czechoslovakia.*
Horváth, E. (Jenö): *Modern Hungary — 1660–1920.*
*Huduczek, K.: *The Economic Resources of Austria.*
Layton, W. T., and Rist, C.: *The Economic Situation of Austria.* (League of Nations Report.)
Michael, L. G.: *Agricultural Survey of Europe.* The Danube Basin. Part I, Bulletin 1234, United States Department of Agriculture, 1924.
Statistisches Handbuch für die Republik Oesterreich. Annually from 1920.
Teleki, Count Paul: *The Evolution of Hungary and its Place in European History.*
Temperley, H. W. V. (ed.): *A History of the Peace Conference of Paris.* Vol. II, chap, V; vol. IV; vol. VI, chaps, I, II.
*Textor, Lucy E.: *Land Reform in Czechoslovakia.*

CHAPTER XIV

SOUTHEASTERN EUROPE

TURKISH NATIONALISM AND THE "EASTERN QUESTION"

TEMPORARILY, at least, the war and the Russian Revolution have greatly weakened as a world issue the Balkan corridor between central Europe and the Levant, and the cross-current of Russian ambition at the Straits. The main part of Asia Minor, together with Constantinople and its immediate hinterland, seem to be firmly and permanently in the hands of the Turkish Nationalists; the Greeks, who were backed by the English, having been crushingly defeated and ejected in 1922. The (unratified) Sèvres Treaty, setting up a neutral zone under international control on both sides of the Straits, was repudiated by the new Turkish Grand National Assembly.

In two conferences held at Lausanne, Switzerland, the Allied Powers had to acknowledge the changed situation. A new settlement, embodied in the Treaty of Lausanne, was completed in June, 1923, and Turkish troops occupied Constantinople in October. The most important economic features were: (1) the practical abandonment of the "capitulations," which had given foreigners special legal rights in Turkey; (2) exclusion of the question of the Ottoman debt from the treaty, as a matter to be arranged between the Government and the bondholders; and (3) the opening of the Straits to foreign merchantmen and, within limitations, to warships. This last provision was vainly opposed by the Russians, Turkey's allies. Turkey has become a truly "sovereign" power for the first time since the Kainardji Treaty with Russia in 1774.

After the defeat of the Greeks in 1922, the intense Franco-British economic rivalry which manifested itself in the Near East from the signing of the armistice, or even earlier, hardly affected the Balkans — French and English communications

with western Asia being by sea. Thus, instead of being a focal point of European "economic imperialism," the Balkan Peninsula has now become of interest chiefly because of its own peculiar problems. These fall into two main groups: (1) agrarian organization and development; (2) commercial and industrial questions, arising from the backwardness of the region. The point can hardly be too much emphasized that the Balkan problem has been wholly changed since 1914, through the break-up of the Habsburg Empire, the change of Turkey from a loose imperial organization to a smaller, intensely national one, the strengthening of the two leading Balkan powers and the weakening of Russia, and the disappearance of the central European alliance. We need not expect such fierce and cumulative economic rivalry as characterized the period before the war, over a region which never was considered of first-rate importance in itself.

THE AGRARIAN PROBLEM IN SOUTHEASTERN EUROPE

The distinctiveness of southeastern and eastern European peasant institutions is based on their peculiar history, and is not to be explained away by vague allusions to their "stage of economic development." The eastern European villager has back of him experiences which we have not shared, nor any of our ancestors. Neither can his community ever go through some of the most formative and characteristic phases of our history. Among these are the expansion of Europe, with the opening-up of new continents to trade and settlement, and the tremendous effects on the home countries; the commercial revolution; the French Revolution; and especially the Industrial Revolution, which came to Western Europe at a time when it conferred the economic domination of the world.

These things can never be new but once, and half or more of their effect upon the West was in their newness. They are part of us, as our own experiences, and our society is covered with the new growth and unsightly scars of their passage. To the eastern European, they are as mere tales of adventure in a far country. These peoples cannot discover

and populate the Americas, or open up India, China, and the Spice Islands. There are no more colonies to be won in Africa, with millions of dusky natives to slave for ivory, gold, and rubber to enrich new conquerors. All this seems trite and obvious enough, but people often forget or ignore it, and feel hurt when the eastern European does not always hasten to emulate us, though the reward we worked for is no longer offered.

Serbia and the Rumanian principalities, as well as Greece, underwent a profound economic and social change as a result of the wars of 1820–29. While no reliable population statistics exist, we know from travelers' accounts that in 1830 the lower Danube region was peopled sparsely and in patches, and that there were vast tracts entirely unutilized or grazed over by occasional droves of scrawny sheep. Most of the travelers from Belgrade to Constantinople went down the Danube, the heart of Serbia being almost entirely cut off from the outside world. A guard of 500 Turkish Janissary troops [1] had accompanied Lady Montagu in 1717 in her passage through Serbia. She described the country as "the deserts of Serbia, almost quite overgrown with wood. . . ." The succeeding century of oppression, closed by two bloody and devastating revolutions, did not provide much opportunity for improvement, and accounts of the later period are quite similar. Bulgaria had not even begun to emerge from Turkish rule by 1830. Many Serbians had served in the Austrian armies during the war of 1787–91, including Kara (Black) George, who was to lead the revolt of 1804. Beginning with 1791, almost a decade of practical Serbian autonomy was passed under Hajji Mustafa, a Turkish officer who was more like a Western *philosophe* — a skeptic and Freemason who armed the peasants against the Janissaries and completely reformed the Government for the time being.

Both Kara George and Miloš Obrenović (who led the

[1] The word "Janissary" is a foreign corruption of the Turkish *Yeni Cheri*, meaning "new soldiers." They were at first taken as children from subject peoples and specially trained, but by this date had become an hereditary military caste.

second revolt, beginning in 1815) sternly repressed the attempts of the wealthier leaders to carve out fiefs for themselves. This headed off the extension of the feudal order which loosely covered the Slavic family-village associations. Serfdom was abolished by a series of laws which simply declared that whatever the peasant had been holding was now his property. A similar declaration was made concerning the serfs in the districts added in 1878, but in this instance the Berlin Treaty commanded the Serbian Government to compensate the Turkish lords. Turkish feudalism lingered on in Macedonia up to 1913, when the district was finally lost by the Ottoman Empire.

When Austria liberated the serfs of Bosnia-Herzegovina after 1878, many were left landless or nearly so, and holdings in these regions continued to be much larger than in Old Serbia. In the last Serbian returns before the war, the most numerous class of proprietors (78,000) was that holding 5 to 10 hectares (a hectare being 2.471 acres), 2 to 5 hectare holdings being almost as numerous. Holdings of 2 hectares and less were about equal in number to those of 10 to 30 hectares. Out of a total of about 255,000 holdings in all Serbia, only 483 of more than 100 hectares (247.1 acres) were recorded, all of these in the hands of *Zadruga* or big family units.

Too much emphasis can hardly be placed upon what happened between 1800 and 1914, as fully four fifths of the present population and a far larger fraction of the present wealth have been added since the earlier date. This is substantially true of the Russian Empire of 1914, as well as of the Balkans. The two great factors in the increase have been the growth of export trade, especially in grains, and the pressure from without of the Industrial Revolution (in later years, its partial establishment within these countries). There are thus two things especially to be avoided in dealing with eastern European economic life. First, their historical background, present circumstances and outlook for the future are so different as to make analogies with any Western land dangerous. Second, we must be equally shy of the contrary assumption

that all features of their present institutions have come directly and solely out of their own past history. Even the heritage of the past and such influences from outside as the Industrial Revolution, taken together, form only part of the picture, in which the two sets of colors are blended, producing something different from either.

Bulgaria's *Zadruga*, or kinship-community system, was almost identical with that of Serbia. Under the Turks, the Bulgarians had far less to complain of than did the Serbs — less military feudalism, more voice in their own affairs, and perhaps less actual persecution than any European subjects of the Ottoman Empire excepting the remote and Mohammedan Albanians. There are several obvious reasons for this. Older authorities such as Dicey often expressed the opinion that some slight difference in racial strain — perhaps the occasional drop of Tatar blood from the original Bulgarian conquerors of the Slavs — made this people more tractable and less inclined to religious fanaticism than its neighbors. It seems far more important that there was practically no agitation for independence until after the middle of the nineteenth century. This is related to the fact that Bulgaria — or literally the "Vilayet of the Danube" — was not on the frontier between Islam and Christianity, the Rumanian lands forming a buffer. The garrisons of Serbia, and the accompanying feudal-military establishments, were for needed protection against the Habsburgs, who had repeatedly stirred up and armed the Serbian population. Turkey feared sedition and secession in Serbia, and fear is always likely to be a parent of persecution.

The Rumanian principalities were, like Serbia, on the frontiers of the Habsburgs and Romanoffs. Theirs was thus a double portion of the danger of invasion and the effects of Turkish fears of sedition. Bulgaria was not a rich province like Egypt, where the poorest person may be worth robbing, or even like the Rumanian lands, with wealthy landlords to invite exploitation. Hence the Bulgarians, a nation of peasants, made a plain living out of their small plots, and carefully

hoarded out of the tax-gatherer's sight anything which might be left over. Theoretically, most of the land belonged to the Sultan, but in practice holdings rarely reverted to the State — only in case the owner died without legal heirs, left the land uncultivated for three consecutive years, or failed to pay the tax of ten per cent of the gross produce.

In 1862 — before there was any hope, or even much talk, of a stroke for independence — Midhat Pasha, the enlightened Governor-General of the Danube Vilayet, started the reforms from which the more modern features of the Bulgarian peasant organization have evolved. He perceived that the primitive farming methods then in vogue were ill adapted to a situation in which international exchange of products was becoming a strong factor. To produce for foreign markets, the peasants needed better tools, and local industries must be encouraged if the region was not to become economically tributary to outsiders for manufactured goods. Midhat founded mutual credit associations as a nucleus of his various reforms. The landowners in each district contributed to a common fund in proportion to the amount of their tax (tithe). Local commissions, partly elective and partly nominated by the administration, managed the fund. Advances were made, on personal security, to those who needed them for improvements. There were no losses, inasmuch as the administrators were also among the largest subscribers to the sum from which the advances came. No large banking firm of the ordinary type could well profit by mortgage loans on such small properties, so the alternatives were coöperative credit or the Levantine money-lenders.

In 1895 the Government (autonomous since 1878, independent in 1908) assumed a general oversight of these credit associations, uniformatized their operations, and established relations between them under the law. Finally, in 1903, the Agricultural Bank of Bulgaria was established with an initial capital of 35,000,000 *leva* (francs), and these local credit associations became its branches. It is not merely a bank in our sense of the term, but rather a central agency for

the economic improvement of agricultural village life. This included the financing of rural coöperatives until the Central Coöperative Bank was founded in 1911. Though the Bulgarian rural credit organizations bear some resemblance at a glance to the German Raiffeisen societies, their development, from Turkish times, has been distinctive. In seeking an explanation of this, we immediately encounter the fact that they were deliberately introduced by the Turkish provincial government into a system of Slavic communities without any exact parallel in western Europe.

Coöperative enterprises play a most striking part in the economic life of the rural villages of the lower Danube. The Slavic *Zadruga* or family community is itself a rude coöperative, with elements of kinship added. These elements have tended to disappear — or rather the institution has gradually given way to actual coöperative societies. Of these, Serbia and Bulgaria had about a thousand each by 1910. There was a Central Union of Agricultural Coöperative Societies in Belgrade, and the whole system had been put under government supervision, as in Bulgaria.

The Central Coöperative Bank of Bulgaria was founded because of the difficulty experienced by such institutions as the National Bank and the Agricultural Bank, with their variegated activities, in dealing with small coöperatives. There was no question of the solvency of most of these, if dealt with understandingly, but such practices as the use of mere personal security made it hard for big institutions to fit them into their business. Coöperatives had had a phenomenal growth since 1895, and various types had been adopted. For example, most of the rural banks had assumed the German Raiffeisen type, discussed in a previous chapter. Altogether, there were 931 coöperatives in Bulgaria in 1910, when it was decided to found a special central bank for them. This was done early the next year, and by the beginning of 1912, nearly half of the coöperatives had grouped themselves around it.

One of the most important functions of this new financial

institution has been the insurance of live stock and crops. In the heart of the Balkan Peninsula, local hailstorms often totally destroy all growing plants within extremely small areas. A peasant who has strips of land scattered all over the village often saves part of his crop for that reason. Hence there has been a great deal of opposition to the government policy of encouraging consolidation of strips wherever feasible. It seems likely that this obstacle will be removed by popularizing crop insurance through the coöperative system.

This practical situation raises a very interesting point about the strip system of agriculture in general — including that current in western Europe during the Middle Ages. It will be recalled that accounts of primitive German agriculture frequently mention the insistence upon each villager's possession of some land of each of the various kinds. The school of historians which attributed to the Nordics every virtue, including democracy, had a way of exploiting this point as proving a Teutonic passion for equality. Eastern European peasants to-day take a very different line of argument, and it is conceivable that if we had more of the actual talk of the medieval villager, it would likewise be shrewdly practical rather than loftily democratic and abstract. Not only hail, but also various pests, such as rust and smut, affect different parts of the same community unequally. Moreover, there is the major question of wet and dry seasons. During a wet season, the high ground is often best, the opposite being true in case of drought. Given a coöperative labor system, little money, and chiefly local markets, it is obvious that scattered holdings have their economic uses. Even after a considerable occidentalization of eastern Europe, some of these services can be replaced only by a rather intricate system of insurance and credit.

As far as we can see, across a great deal of obscure history, at the base of the Rumanian land system lay a village economy quite similar to that of Bulgaria and Serbia. Instead of being frankly assimilated by the Ottoman Empire as integral parts of its administrative system, the two principalities of Wal-

lachia and Moldavia were technically mere tribute-paying subject states. For over a century, up to 1821, they were literally farmed out to Phanariot (Constantinople) Greeks, the title of Prince and the revenues being sold to the highest bidder when a vacancy occurred. These Greek speculators were certainly not more philanthropic in their attitude toward the subject population than was Turkish officialdom in the Balkans proper, farther south; but they were far more competent in financial matters. The upper-class Turk of imperial days was an easy-going aristocrat with a contempt for all business. He owed his position in the Near East to a great military tradition, long since decayed. His combination of charming personal qualities with utter uselessness in a social order which had shifted under his feet suggests nothing else so much, perhaps, as the eighteenth-century nobility in France.

Most of the business of the Ottoman Empire, including the technical details of administration, was carried on by subject peoples, such as Greeks, Armenians, and Jews — actual foreigners playing an increasing rôle as time went on. Many Turks embraced the liberal ideas of the eighteenth-century *philosophes*, and "benevolent despotism," such as that of Joseph II of Austria, Frederick the Great, and Catherine the Great, appealed especially to many of them. The personal contact with France was very vital, and many Turks followed the French upper-class drift toward democracy which began with the Revolution. We have already noted two cases, Hajji Mustafa and Midhat Pasha, of Governors with an honest zeal for reforms of the Western type. The checks which these and other Turkish officers imposed upon the rapacity of tax concessionnaires were absent in the Rumanian lands, where even the head of the Government was non-Ottoman and non-Moslem. Not only was Rumania richer than the Balkan Peninsula proper, but it was also organized into a hierarchy for exploitation, from the Prince down to the humblest tax-gatherer and the smallest manorial lord with serfs to work for him.

Rumania is important as a link between Russia and the Balkans, in exploring the obscure antecedents of a system of tenure and ideas which Westerners very rarely grasp. There are not the same specific references by contemporaries to the slavonization of the Rumanian lowlands that there are in the cases of Bulgaria, Serbia, and even Greece; yet the economic terms referring to the land system are largely Slavic, though the Rumanian language is strictly Latin in structure. What most Rumanian historians think occurred in the early part of the Middle Ages was the recolonization of the lowlands by Latin-speaking remnants from the Roman occupation which had receded to the Transylvanian–Carpathian highlands during the great migrations. The two regions are so different that there would be nothing strange about the adoption by Latin settlers of the Slavic village system which they found in the Danube valley, even if they had not found it loosely occupied by Slavic and other racial fragments from the east, which they probably did. The main point is that the Rumanian land system of the eighteenth and nineteenth centuries had many of the peculiarities of that of the Balkan Slavs on one side of it, and of the Slavs of Russia on the other.

In both Rumania and Russia, where there was not the religious-legal barrier which divided the Turkish ruling caste from the Balkan Slavs, a powerful manorial gentry of the same blood as the peasants grew up. They were called *boyars* in both languages. With the disappearance of this feudal superstructure, both Rumanian and Russian village life have shown a remarkable tendency to drift toward the Balkan-Slavic type. This lends color to the supposition that the Russian *Mir* was originally the same as the Bulgarian-Serbian *Zadruga*, which was the primitive Slavic organization, and that Rumanian agrarian institutions came from the same source.

The outstanding feature of Rumanian agrarian history in recent times has been the elimination of feudal and servile elements, and the return to (or at least the progression toward) a system of small peasant holdings. In this general

respect, it has been like the Russian land problem. If the general historical background as traced above is substantially accurate, there is nothing surprising about the greater simplicity of the land problem in Bulgaria and Serbia, where these feudal elements had not been superimposed to the same extent as in Rumania and Russia.

Instead of being reformed from within like Serbia, the Rumanian principalities were left in the hands of Russia after 1829; Russian officers, together with local *boyars* or landlords, drew up the Rumanian *Règlement Organique* of 1834 — a general constitution and administrative system which was to work in substantial independence of Turkey, except for a tribute. The *boyars*, long *seigneurs* or "lords of the land" in fact, were now so called in definite legal terms, a very natural approximation to the Russian practice. After futile attempts at reform during the general European popular upheaval of 1848, the system drifted along until the Crimean War (1854–56) resulted in the definite autonomy and union of the Rumanian principalities.

Alexander Cuza, the first Prince (1861–66) of united Rumania, surrounded himself with liberals. First, the group confiscated the lands of the Greek monasteries — about one fifth of the whole. The suffrage was reformed to secure peasant support, and finally an act of 1864 abolished the vestiges of feudalism and serfdom, giving each cultivator the land he held and making the landlords outright owners of the rest for the first time. A similar reform was going on in Russia during the very years of the Cuza régime.

Political reaction, in Rumania as in Russia, prevented the further drift toward a system of small holdings which the reformers originally had in mind. Many of the rich, including the industrial class from the towns, bought up small holdings. Population increased rapidly. An "agricultural conventions" act of 1866 permitted the Rumanian peasant to contract his labor to a proprietor up to five years, and provided for government enforcement of these contracts. Hence there was a steady reaction toward the system of great estates and

forced labor. To make the situation worse for the peasants, there was the same want of credit institutions suited to the needs of rural villagers as noted above in Bulgaria. The peasant in need of money sold his next year's crop or labor at a ruinous discount. Moreover, a class of "farmers" appeared — people of Rumanian and Levantine extraction who leased big blocks of land for sub-lease at higher prices.

Between 1894 and 1897, two popular (coöperative) banks got themselves solidly established in Rumania. This means of heading off usury and land monopoly proved so well adapted to Rumanian village life that the number increased to 80 in 1900, to 256 in 1902, and to 700 in 1903, with a membership of 49,844 and a capital of 4,250,600 francs. This was the year, it will be recalled, of the founding of the Agricultural Bank in Bulgaria, one of the functions of which was to finance the rural coöperative credit associations, already systematized and regulated eight years earlier. The Rumanian Government now established a central bureau for popular banks and other types of rural coöperatives, which had suddenly begun to multiply. Besides a system of banks — local, regional and one central at Bucharest — the new Central Coöperative Agency took great interest in the growing number of land-leasing coöperatives, forest-exploitation societies, consumers' leagues, etc. A special law of 1905 regulated the organization of these institutions in considerable detail. For instance, no member of a popular bank could hold a share of less than 20 or more than 5000 francs in the enterprise. A maximum was fixed to prevent control by the rich and powerful. No limit was set to interest-bearing deposits, however, since these did not threaten the popular character of the institutions.

Rumania remained a country of great estates, in spite of repeated reform laws, always inadequate and always defeated in practice by the great landlord class. A 1905 report showed that 3,000,000 hectares, or three eighths of the arable land in the country, were held by only 1563 proprietors, in lots of 500 hectares and over. Some were extremely large, running into

many thousands of hectares. A careful analysis of the income from these great estates showed that nearly two thirds of it came from lands leased to speculators. That is, Rumania was becoming a country of *absentee* landlords. The last noteworthy reform before the war, that of 1907, did not radically change the situation, though it did some good.

A comparison with Bulgaria is interesting, because merely verbal accounts of the two can be made to sound much alike. Like Serbia, Bulgaria had practically no absentee landlords. Only about a tenth of one per cent of her arable land was in estates of 500 hectares or larger — as compared with the Rumanian forty per cent! It was chiefly on these large estates that the 120,000,000 bushels of grain annually exported from Rumania was grown. Bulgaria, a country of small holdings, exported only about a sixth as much. This Rumanian export of grain partially explains the poverty and under-nourishment of the peasants of that country before the war. The agricultural resources were largely controlled by a wealthy element, and could be turned to commercial cropping at the expense of a decent standard of living at home. When the peasants got control of the wheat after the war, they began to eat it. Under the Bulgarian system, where the peasant was far better off, the difficulty of introducing western machine methods was greater, both because of the uniformly small holdings and of the numerous vestiges of the strip system. Nevertheless, the Balkan Governments were not enthusiastic about copying the agricultural organization of the west. Before the war, they were pretty consistently opposed on principle to the big estate, and they have been given no choice in the matter since, if they are to remain in office. The coöperative is the favorite device for combining the economies of large-scale production with the equality and other social advantages of a system of peasant owners.

RECENT AGRARIAN REFORMS AND "GREEN INTERNATIONALISM"

The International Union of Peasants was first formally organized at the sixteenth Congress of the Bulgarian Peasant Union, in February, 1921. It is popularly known as the "Green International," to distinguish it from the rival "Red International" of Moscow, and the typical peasant movement in eastern and east-central Europe since the war has commonly been called "Green Internationalism," whether or not the phase of it under discussion happens to be formally affiliated with the organization.

Green communism is not Marxian at all; indeed, the present coherence and unity of its aims are largely due to the opposition of peasants to the Russian or "Red" communist program. The Bolshevik "New Economic Policies," inaugurated in 1921, arose in part from the necessity of compromising with the closely related peasant movement in Russia. The Balkan countries, most of the area of the succession states of Austria-Hungary and western Russia, and also the Federated Soviet Republics of new Russia herself, are overwhelmingly agricultural. The estimates for old Austria-Hungary were around 74 per cent, for the Balkans 80 per cent and for Russia from about 80 per cent to 86 per cent. If we can imagine 80 per cent of the population of England and Wales in peasant villages, instead of only 20 per cent *in towns of 20,000 and less* (many of these very much industrialized), it is obvious that the interests and ideas of the majority would be fundamentally different. The majority would be tillers of the soil, not industrial workers, professional people and lesser business men as in England now.

The Agrarians of Bulgaria, who ruled the country from 1918 to 1923, did not "actually constitute a political party, but rather a league of representatives of peasant proprietors. . . . Most of the parties had lost touch with the peasants. . . . They saw in the peasantry merely an instrument for obtaining power; . . . The peasants at last sought means by which to safeguard their interests, and naturally the rural co-

operative societies formed a nucleus for the Agrarian movement." In these words, G. Clenton Logio [1] describes the preëmption of political functions by these typical Bulgarian peasant economic groups.

The Bulgarian Peasant Union was formed in 1900, as a protective measure against the brutality and extortions of the reactionary Cabinet of 1899, which provoked a rising and then quenched it in blood. Alexander Stamboulisky, Agrarian Premier from 1918 to his overthrow and murder in a military *coup* of 1923, published a book before the war arguing that coöperative organizations should take the place of political parties. His idea called for representation by economic interest-groups; but in Bulgaria, as in eastern Europe generally, peasant coöperatives, not trade gilds are the outstanding groups.

This was the most serious quarrel between the Agrarians or Green Communists of south central Europe and the Russian Bolsheviks. As long as the Bolsheviks were backing the confiscation of great estates, the Agrarian groups of southeastern and east central Europe were enthusiastic. Likewise, in accusing "capitalist governments" of forging a war to be fought by peasants and workers, the Russian Red Communists were merely reiterating what the Agrarians already believed. Had they not been oppressed and mulcted from the beginning, they asked, by their non-peasant Governments? The sudden achievement by the most numerous group of peasants in Europe, the Russian, of the hope entertained by all for generations had a dramatic effect in near-by countries which no one not on the ground can ever quite realize. The war was still at its height. In order to keep the support of their peasants, the backbone of the armies, Governments had to commit themselves to agrarian reform, beyond any possibility of retraction.

Once consummated, the Russian land distribution program naturally lost its vitality as an issue. The other great popular catchword of the Russian Bolsheviks, "peace," lost its force

[1] *Bulgaria, Problems and Politics*, pp. 65–66.

when the European war ended. When the actual form of the new Russian State became apparent, a terrific revulsion of opinion took place in near-by peasant countries. Instead of peasant coöperatives to replace political representation, the hierarchy of councils (soviets) set up in Russia made the city minority powerful in an incredible disproportion to its numbers. This in itself was unpardonable in the eyes of Balkan peasant leaders, but it was not the worst. The type of council which the Bolsheviks favored was not the historic *Savet* or *Soviet* of the agrarian Slavs, but an urban, industrial, Marxian creation which, though it bore the Slavic name, had really sprung from notions about the alien society of western Europe. Moreover, the theory that the State owned all the land had a familiar and disagreeable ring to peoples who had recently emerged from Turkish rule. War-time organization also gave other Governments potent instruments of defense against Russian ideas, in a concentration of physical and moral force which was able to mark things "enemy propaganda" at will. It was in the heat of war and the turmoil of reconstruction that the long-hoped-for agrarian reforms had to be carried out.

In post-war Bulgaria, which may be taken as a sufficiently typical peasant state to form the point of departure, no man can own more than seventy-five acres of arable land or one hundred and twenty-five acres of forest and pasture land. Here the peasants were better organized than elsewhere, and had fewer preliminary problems, such as the reduction of great estates, so we can get a better idea from their actual measures of what their intentions were. The peasant is against war. No theme is more reiterated in Balkan folksongs than the hardships, griefs, and general uselessness of this institution. Stamboulisky himself, peasant Premier of Bulgaria from 1918 to 1923, was in prison during the World War for his opposition to it. The peasant believes in work, and regards the person who lives without some habitual, useful employment of hand or brain as a parasite upon those who do produce. Not only were strong measures taken by

Stamboulisky's Government to force every able-bodied person to pursue some productive occupation; but ten days' labor on public enterprises was required of every one. This conscription was at first absolute — neither money payments nor substitutes were accepted.

Everywhere in these peasant states, hostility to towns and townsmen is generally and freely expressed by the country (village) population. More of this feeling appeared in the form of actual legislation in Bulgaria than elsewhere, because there the peasant majority actually got complete control of the Government and held it for years. Considering the fact that almost the entire national wealth of a group of these countries is based on agriculture, the peasants consider it practical robbery that so nearly all the fine buildings, modern improvements, higher educational facilities and chances for a life of civilized comfort should be preëmpted by the towns. As a general thing, they suspect all middlemen, and regard them as useless. They would like to purchase through syndicates of coöperatives, and these have appeared here and there even as exporters of grain and importers of necessary machinery. As contrasted with the bourgeoisie in the towns, the peasants are generally unfriendly to foreign capital, regarding the representatives of foreign corporations as one more parasitic class living in luxury off the country. It was commonly stated in the days of German-American-Dutch control of the Rumanian petroleum industry that the peasant actually paid more for his oil than he had before this enormously rich national resource had been developed.

Agrarian reform in Jugo-Slavia was first outlined in a Decree of 1919, and later incorporated, with some modifications, in the 1921 constitution. Besides the subsidiary aims of eliminating feudal and servile tenure in the lands acquired by the Serbs since 1912, the scheme attempts to break up all the big properties (with the exception of certain model farms). The broad outline of the plan is to allow no individual holding larger than 124 to 185 up to 741 acres, the size varying with quality, kind, and local conditions. Only 141 acres can be

owned by any one who does not cultivate it himself, and a non-resident of the Kingdom is limited to 17.3 acres. Expropriated owners are to be paid in state bonds, redeemable after twenty years and drawing 5 per cent interest. Certain classes of war veterans get their land free, but the rule is payments over a ten-year period, with interest at 7 per cent. About a half-million families had been settled under the act by 1924. General supervision is entrusted to the *Crédit Foncier* or national mortgage Bank.

Much as agrarian reform in Jugo-Slavia has been complicated by the bewildering variety of types of holding and exploitation, from Turkish feudalism superimposed upon peasant villages to big modern farms in some ex-Austrian lands, the situation in Rumania has been even more complex and difficult to handle. In an army order of March, 1917, King Ferdinand made a specific promise to break up the crown lands into peasant holdings. He stated in general terms that far-reaching land and constitutional reforms were coming in Rumania, but went into details only concerning the lands which he could personally promise. The tenor of this message leaves no doubt that peasant agitation for agrarian changes was considered a grave and pressing question outside of Russia at least eight months before the Bolshevik régime began. Bolshevik propaganda made the most of a situation which already threatened revolution in more than half of Europe. As pointed out above, the system of great estates in the Old Kingdom of Rumania was still extremely oppressive, in spite of all attempts at reform. Perhaps Russia herself was no worse. In Moldavia, next to Russia, the estates were much larger on an average than in Wallachia, next to Bulgaria.

Bessarabia, or "The Moldavian Republic" under the earlier Soviet federation, had been seized by the Rumanians early in 1918, with the connivance of both French and Germans. Expropriation of great estates had already taken place, following a scheme far more sweeping and less favorable to the proprietors, at the time the Rumanian decree was published

in December, 1918. The Rumanian Government thought it expedient to reconstruct the Bessarabian law, bringing it into line with its own plan. Among other things, the principle of compensation is practically identical in the two decrees, published a week apart. Article 5 of the decree for Bessarabia contained one trouble-making, but unfortunately characteristic, political clause (Sec. d), which declared that those who had not made a declaration of Rumanian nationality by January 1, 1919, would be treated as foreign subjects. Later, the time was extended four months. The provision was doubtless to frighten landowners into dropping all opposition to the Rumanian occupation, and at the same time to put them beyond the possibility of legal appeal to any outside power.

Private holdings were limited to 100 hectares (247 acres) in Bessarabia. In the Old Kingdom of Rumania, as in the former Austro-Hungarian lands, it was 500 hectares (1235 acres). Only the largest holders could keep so much, however — that is, those with 10,000 hectares (24,700 acres) and over. A man with 100 hectares was not molested. A plot of 200 hectares was cut to 165.7; 300 to 201.17; 500 to 241.2; 1000 to 284.9, 3000 to but 351.4, and so forth.

Local commissions carried out the actual parceling of the land. A commission composed of the district judge, the proprietor or his agent, and one peasant delegate, considered the evidence — including surveys, rents, records of sale, mortgages and the like — and made a tentative adjustment. If the decision was unanimous, possession was given immediately to the local peasant coöperative group. In case no such organization existed, one was created. Fifteen days were allowed for appeal to the departmental commission if there was difference of opinion in the local one. The whole scheme was under the general supervision of a reorganized Central Bureau of Coöperatives.

This national expropriation plan has been the most sweeping of the group, as it was the most needed. Hence it has been the object of concentrated attacks on the part of those

who object to such wide and arbitrary state action. Its administration has been fraught with enormous difficulties and complications. For example, many of the estates were mortgaged. Some of these mortgages covered whole estates, and were simple to deal with, but others covered only part of the expropriated portion, together with other specific areas. There were second mortgages in some cases, of course. A great deal of friction arose over the categories of land — forest, vineyard, cultivable in cereals, pasture, waste, etc. To make it worse, the surveys were often old and unreliable. An additional complication arose where land was held jointly by a foreigner and a citizen. Some was seeded and some not at the time of expropriation. Perhaps the most cogent criticism of all is that any arbitrary cutting up of land into plots of fixed sizes does not correspond to economic and social conditions.

The largest estates of Rumania lost a much higher percentage of their land than the smaller ones. Therefore a region of great estates had large areas of expropriated land — often more than the number of peasants entitled to it under the law could take up. The opposite was the case in a region of smaller estates. Often there was a very small area available for distribution, and a large population of peasants entitled to land under the law. They could move to a different part of the country, of course, but many families had been attached to the same villages for uncounted generations and found moving a hardship. In the long run, the land hunger of the peasants may even this up, but it has been generally charged that for the time being much land was thrown out of cultivation. Miss Irvine gives the figure as "nearly a million acres" at the end of 1919, out of a total of five millions thus far expropriated. She cites a statement from the *Münchener Neueste Nachrichten* that an even worse situation of similar origin existed in Latvia at the end of 1920. Count Teleki makes this criticism even more emphatically in his work on *The Evolution of Hungary*. At the end of 1924, only about half of the Rumanian peasants entitled to land had received it.

The short-lived moderate Socialist Government of Hungary, which lasted till March, 1919, went about the parceling of great estates in much the same radical spirit. Nobody was to be permitted to hold more than 250 acres, and small holdings of about 13 acres were taken as the general goal. Count Teleki gives the example of two villages. One had 500 acres to divide and 1000 legal claimants — the other 6000 acres and only 300 claimants. In the first case, there was a half-acre apiece, and in the second twenty acres. "The people of the second village dug trenches to defend their new property against the less happy people of the first village." With the fall of the Hungarian Bolsheviks, the less radical program mentioned in the last chapter was adopted.

The suspicion in which great private corporations, and especially foreign ones, are held in these Balkan countries is illustrated by the Rumanian mining law of 1924, nationalizing the unappropriated subsoil resources. By "nationalization" the Rumanians did not mean "socialization," as they explained when the oil interests protested, but aimed ultimately at majority control by citizens of the country. Small nations are never allowed to extinguish such rights, already lawfully acquired by the subjects of powerful foreign countries, without full and satisfactory compensation. The foreign oil corporations objected even to the damage they would suffer from a definite curtailment of their expansion. The period allowed for transference of 55 per cent of the corporation stock to Rumanians does not end until 1934. There can be no doubt as to the right of any sovereign state to regulate the conditions under which new corporations may be established, or old ones extended, within its frontiers. The main issue in such cases is that of proper compensation for lawfully acquired rights; and the value of the entire capital stock of an enterprise might be affected by the prescription that certain people must be in control. This mining law must not be classed with the land expropriation act, although the two types of legislation very often go hand in hand.

In Czecho-Slovakia, the maximum individual holding was

fixed at 190 to 315 acres. The Polish law recognizes the advantages of farms of varying size. In cutting down large estates, the schedule aimed at varies from 148 to 444 acres, with provision in some of the old German and Austrian lands for estates twice as large. Looking upward from the lower edge of the system, thirty-four acres is the maximum enlarged peasant holding which the Government assists in creating. Nearly a million and a quarter of acres are to be affected by the completed reform.

Interested parties and agencies have indulged in a good deal of economic argument about the effects of the agrarian legislation. For instance, the guess mentioned above that "nearly a million acres" remained fallow in 1919 after the Rumanian expropriation becomes 854,620 acres in the official figures. This was reduced to 580,450 in 1920, 293,930 in 1921, and practically zero in 1922. Moreover, not all the uncultivated land in 1919 can be charged to the expropriation. Some battlefields had not yet been cleared in 1919. Both draft animals and implements were wanting. The greatest difficulty was experienced even in getting sufficient seed grain in a country where people were still starving and foreign relief agencies were at work. Finally, the large number of men mobilized on the Russian and Hungarian frontiers crippled agricultural operations, and the transportation system was in a most deplorable condition as a result of the war. In a word, to charge all the uncultivated land to the agrarian reform alone is clearly a case of careless reasoning of the false-cause variety.

Only a very rash person would attempt to predict the outcome of the new peasant movement which has affected most of Europe — though its accomplishments and aims are naturally more apparent in the least industrialized portions. If the rural coöperatives continue to thrive, a good deal will depend upon what effect they have upon the size of the units farmed. So far, it appears difficult to hold together coöperative units as large and efficient as the greatest of the old estates. It is quite possible that the eastern European tend-

ency may be toward intensive or horticultural methods of cultivation rather than toward the extensive type which demands much machinery.

The industrial recovery which is reported from nearly all these countries represents a gradual repair of the damage wrought by the war and the attempted adjustment to an economic world greatly altered by the relative decline of two great powers in central Europe. Much which appears at a glance to be the economic progress of Rumania and Jugo-Slavia is merely the other side of the territorial shifts involved in the paring down of Austria and Hungary. Eastern Europe will certainly not be characterized by great manufacturing plants for a long time. It remains to be seen whether the growing self-sufficiency of such regions, which we are accustomed to call "backward," will not call a sharp halt to the industrial concentration in the west.

COMMERCIAL AND INDUSTRIAL QUESTIONS

Agriculture and other extractive and hand industries play an overwhelming rôle in the economic life of southeastern Europe. Hungary was mentioned above as an agrarian state because about half of her people are directly connected with agriculture, and this pursuit outweighs manufacturing about four to one in the sum total of economic production. When we get into the Balkan Peninsula, the agricultural population makes up about three fourths of the whole, and the most generous estimate would not give manufacturing a weight of one fifth in the total production of wealth. There is nothing especially peculiar about the towns, but they are relatively few, and very distinct from the villages or agricultural settlements, which are often quite large. For example, in 1920, the Rumanian villages of Bilciuresti and Cojasca, north of Bucharest, had a combined population of more than 6000. They lay side by side, so close as to form one continuous site. There was no railway, no manufacturing plant of any kind, and only four small stores, with almost no merchandise in stock. The people farmed their plots and strips in the sur-

rounding country, hauling their surplus grain some twenty miles to the capital in strong, light wagons made almost entirely by hand — the tires, skeins and bearings for the wheels and several other metal parts being imported.

The contrast between country (that is to say, *village*) and town is much sharper than in western Europe. Ploeshti, the oil refinery town, and especially the oil fields farther north, look much like similar settlements anywhere. Balkan ports, such as Galatz, Constanza, Varna, and the Piræus, have the same cranes, elevators, tracks, and other machinery as one finds elsewhere. Aside from a few special conventional buildings like churches and an occasional group of peasant-type houses on the outskirts, the larger cities look little different from western European places: the same pavements, tramways, automobiles, hotels, parks, residences, business blocks, and so on. But the hotel fixtures, street railway material, automobiles and most of the other factory made wares are imported. The division of labor between southeastern Europe and the manufacturing outside world is such that the towns are mainly commercial, not industrial, and the villages extraordinarily specialized to agriculture — the peasants doing most of their marketing in the towns for what they do not produce in their fields or houses.

This economic order was being very slowly reorganized before the World War. Peasants were wearing more factory made felt hats and footwear than formerly. Roofs of corrugated iron and tin were occasionally seen instead of thatched ones — though not nearly so good, the metal roofs could be had with less labor. Glass windows were replacing oiled cloth or paper. Bulgaria and Rumania had very good systems of main highways, and side roads were being improved, so that the exchange of products was easier than of old, and local self-sufficiency less profitable. Cheap imported textiles were making inroads upon the solider and far more attractive hand-woven fabrics which had made the national costumes so proudly and worthily picturesque. Country life was healthy in the sense that it was lived heartily, mainly

in the open air. The Sunday gatherings were lively and happy, colored by peasant costumes weaving to and fro in square dances to gypsy music which haunts the memory for life. National literature, and even foreign tongues, were often better taught in the village schools than they are in English or American towns of fifty thousand people. The darker side of this picture is that good doctors were not numerous enough, sanitary conditions were bad, many peasants were aged before their time by overwork and exposure, and there was not always sufficient food of the right kind. To the villager living under such conditions, a townsman is synonymous with a commercial middleman, and there was very little love lost between the two groups. The only really imposing factory building in Bucharest was a brewery.

War, changed frontiers, the sharpening of nationalism, want, and various rather radical innovations in the social and economic order to meet new conditions have accelerated the transformation somewhat. Such shifts are almost invariably overdrawn when writ large in figures, lumping together a vast territory like a state. The intimate picture of Balkan life is very much less changed from what it was before the war than is indicated by the subtle propaganda of government statistics or the treatises of whose who wish to prove something about society in general — particularly somewhere else, perhaps. Still, it is visibly changing.

When we are obliged to deal with a complicated and gradual economic shift very briefly, it usually proves safest to stick pretty closely to the division of labor and the organization of enterprise, which are intimately related. The division of the agricultural lands of southeastern Europe into much smaller units undoubtedly interfered with the trend toward capitalistic methods and expensive machinery. This has been compensated for in part by land-working coöperatives, but only partially. Considering the breakage of war, the imports of such implements have been smaller than might have been expected. Low purchasing power is of course a partial explanation. National economic self-

sufficiency was hardly thought of in these countries before the war, but they have since raised the tariff barriers and tried to manufacture for themselves as far as possible. This is seen particularly in the textiles. To some extent it works in a circle — a vicious circle, it seems to the economist who believes in the widest possible market and division of labor. Foreigners cut down their wheat purchases, willfully or of necessity; then the grain-producing country turns some of its efforts to making the textiles which it formerly purchased with the grain. If this is done assiduously, aided by tariffs or bounties, the market of the textile-producing nation is injured, and it may have to raise some of the wheat which it formerly paid for in textiles.

A country which aspires to do the manufacturing for its domestic market needs to make it as broad as possible by breaking down local self-sufficiency, which process, on its positive side, means the fostering of specialization. This is hard for a poor and relatively primitive agricultural nation to do at the same time that it is splitting up its specialized and well-equipped farms into small units, run by people with insufficient capital and technical education. Government aid is the popular panacea for such ills, but when the debts are huge and the currencies struggling to keep above zero the governments have little to give. Capital must be obtained, if at all, from those who have it, on their terms. They are not attracted by such moves as the Rumanian mining law of 1924. What they think of first is a sound economic structure, in which their capital will be safe, and in Europe those who have money to lend in large amounts are generally hostile to the high tariffs. Two hundred leading bankers and business men, including six from the United States, issued a manifesto in August, 1926, stating, among other things: "There can be no recovery in Europe until politicians in all territories, old and new, realize that trade is not war but a process of exchange, that in time of peace our neighbors are our customers, and that their prosperity is a condition of our well-being." In brief, these political schemes for nationaliz-

ing and artificializing the division of labor are not likely to get much aid from the people who are in a position to lend it, and in the end the governments of these financially weak countries will probably have to await the leisurely processes of history.

Allowing for differences in currencies and price levels, the level of production in southeastern Europe is certainly no higher than it was in the same areas before the war. What has been gained in some things is balanced by losses in others. Commerce is not along exactly the old routes or in the same commodities, but the sum total of the changes cannot be called healthy growth. Before the World War, the Balkan Peninsula was a critical point in European economic and political relations. This was not so much because of its importance in its own right as of its position relative to the Near East proper. Now that the struggle between Central Europe and Russia for those routes is over, for the moment at least, the region has dropped into its proper place of second-rate economic significance.

In the period 1910–11, the total trade of the four leading Balkan countries (Rumania, Bulgaria, Greece, and Serbia) was considerably less than 1 per cent of the world total.[1] Commercially, the four taken together outranked Portugal or Norway, but were inferior to Sweden, Spain, or Denmark. If we subtract Rumania, as lying outside the Peninsula proper, the trade figures are reduced by half. Although Rumania is the fifth oil-producing country in the world, and has many lesser industries, about 80 per cent of her population is engaged in agriculture or stock-raising. Her rank among political states on the basis of the petroleum within their respective frontiers is one of those deceptive but common measurements which mix two kinds of factors and always have to be checked with the actual quantities or ratios

[1] Clive Day has made a valuable compact study of this question: "The Pre-War Commerce and the Commercial Approaches of the Balkan Peninsula," *Geographical Review*, 1920, vol. 9, pp. 277–98. For the same areas, the intimate picture of economic life is mainly accurate to-day, though the shift in political boundaries makes comparison difficult.

to mean much. Mexico produces about seven times as much petroleum as Rumania, and the United States forty-six times as much.[1]

Most of the commerce did not represent Balkan manufactures. At least four fifths of the exports were of agricultural and animal products. This leaves only a fifth for mines, forests and manufactures put together, including huge foreign enterprises such as those which control three quarters of the Rumanian oil industry, the most important one in the whole region. Most of the manufacturing is carried on by fairly primitive methods — if there were no more direct proof, this would be evident from the absence of the raw materials from the imports, and also of the table luxuries which figure so largely in the demands of industrialized countries. Manufactured goods, on the other hand, made up nearly half the Balkan imports, led by staple textiles and metal wares, including machinery. The bulk of this foreign trade was with Germany, Austria-Hungary, England, France, and Belgium.

Bulgaria's economic position has not been greatly altered by the events since 1914, except that she is loaded down with a big reparations bill and her currency depreciated to less than a twentieth of its par (1927). Its fall was accompanied by the usual bewildering transference of wealth between classes and persons, and the dislocation of business. A bill for reparations and occupation amounting to around $110,000,000 is a heavy one for a little country with annual exports of $41,000,000 (1925), even if spread out over a period of years.[2] Bulgaria was enlarged by conquests in Serbia and the Rumanian Dobrudja, and by concessions from Turkey, during the war. In the end, her frontiers were actually

[1] The output and percentages for the oil-producing countries differ considerably from year to year. According to the *Bulletin Mensuel de l'Office Permanent de l'Institut International de Statistique* for February, 1926, p. 84, the figures for the above three countries during 1925 (in thousands of barrels) were as follows:

Rumania	16,314
Mexico	113,000
United States	755,852

[2] Though not compared with Germany, with reparations fixed nominally at 132 billions of gold marks and annual exports (1925) of about 6.6 billions.

shrunk, and her outlet to the Ægean at Dedeagatch taken away. The promise of the Peace Conference that she was to have access to some Ægean port was finally realized in 1924 by agreement with Greece. She is to have a commercial outlet to Kavala (a much better port than Dedeagatch) through a corridor under the supervision of the League of Nations. If this arrangement proves stable, Bulgaria may be commercially better off than she was before. Comparing this settlement with Germany's position relative to the Dantzig corridor, we cannot help wondering if the advantages of being a small nation have not been underestimated. Although Bulgaria's imperial hopes have vanished with the expansion of her neighbors, her economic situation is at least as nearly normal as theirs. The smallness of her army is a great saving in expenses, yet a Greek attack was stopped by international action late in 1925, and the League of Nations awarded the Bulgarians an indemnity of about $220,000.

Greece was greatly enlarged by the ill-starred treaty of Sèvres. Immediately after the war, her currency circulated practically at par, even while those of France, Italy, and Belgium were declining. Later, her disastrous and costly war with Turkey cut her down almost to the pre-war area, overturned the monarchy, and precipitated financial difficulties which have sent the drachma the way of other Balkan currencies (from a par of 19.3 cents to about 1.3 cents by the middle of 1926). Greece has the most varied developed mineral resources in the Balkans, the products including lead, magnesia, nickel, manganese, zinc, salt, iron, and soft coal.

About half of Greece's territory has the Mediterranean climate and characteristic products, the remainder the central European climate of the heart of the Balkans. Some grain has to be imported. The outstanding item in exports is currants, of which nearly 100,000 tons were produced in 1923. Her output of wine and olive oil is also large. Greece has a merchant marine of 828,000 tons (1924), ranking between Denmark and Belgium. Since her defeat by the Turks in 1922, she has made commercial treaties with both Jugo-

Slavia and Bulgaria, giving them free access to the ports of Salonica and Kavala, respectively. Given an enlightened and conciliatory policy, there is no reason why she should not prosper as a carrier for the interior Balkan region. With the completion of the Athens–Salonica railway during the war, she has good rail connections with central Europe. The four-mile canal through the Isthmus of Corinth is not large enough for many of the present-day ships, and has been allowed to get out of repair. A railway connects Athens (and its port, the Piræus) with Patras, on the Gulf of Corinth. These two ports have the heaviest traffic, but Salonica is potentially one of the greatest shipping centers of the eastern Mediterranean.

Jugo-Slavia's two main outlets by water are through Salonica on the Ægean and Fiume on the Adriatic, both outside her territory. If the southeastern European nations take to heart the remark in the Bankers' Manifesto of 1926 that "trade is not war but a process of exchange," the above fact may not involve any impairment of Jugo-Slav prosperity. When capital is available to improve and extend the railway system, the land traffic to central Europe can be increased; but to construct a really good port on the Adriatic, with railway connections, in Jugo-Slav territory is hardly in the realm of practical business and engineering, even if it were necessary. The treaty signed with Greece in 1923 provided for a free zone at Salonica, covering 46 square miles, with improved pier facilities for three ships at a time, railway lines, storehouses, elevators, etc. Rolling stock was guaranteed free movement to and from the Jugo-Slav frontier, and Jugo-Slav postal and customs services were provided for in the free zone. This concession was enlarged and its terms modified by treaty in 1926, and a French resident official arranged for, to work under the League of Nations. A similar arrangement was finally made with Italy over the port of Fiume, long disputed but now Italian.

Of Jugo-Slavia's 12,500,000 inhabitants, 85 per cent are chiefly engaged in agriculture. The parts taken over from Hungary are almost entirely agricultural. At least the im-

mediate future should be that of a moderately prosperous peasant state. Reconstruction has been hampered by the general European economic chaos, by threats of new wars which have kept an expensive military organization on foot, and to some extent by the fierce disagreements between the Serbs and their new subjects. The paper dinar or crown was worth less than a tenth of its par value of 19.3 cents in the fall of 1926. Grain, live stock, wood, and prunes are the chief items in the export trade. Montenegro, an independent state since 1870, was incorporated in Jugo-Slavia in 1922.

To some extent, the expression "backward region" so often applied to the Balkan Peninsula before the war was so vague that it could include confused and even conflicting ideas. Back of it were some realities, however. Of these, the physical ones remain much the same to-day, but not all were physical. The main question from the economic point of view is that of contacts with the rest of the world. Serbia was land locked before the war, but so are Austria and Hungary after it. The problem is one of free access to markets, which is affected by political frontiers only if these are accompanied by tariff, bounty, or license interference with the movement of goods. Even the ownership of a port is obviously less important than the use of one and the terms on which the other ports of the world receive its cargoes.

About the same percentages of the Balkan populations are engaged in the same broad types of productive activity as before the war. These producers were then arbitrarily hampered in their attempts to exchange their goods in the logical markets on terms of equality. Much of the reason for this was political. With the decline of Hungary, Turkey, and Russia as European powers and the beginnings of permanent organizations to see that the peace is not lightly broken or secretly plotted against, the Balkan lands have ceased to be pawns in the game of world empire. Rumania and Jugo-Slavia can hardly entertain further territorial ambitions — the peace of 1919 was more than generous to them. Bulgaria can hope for nothing by war, and the new and less discordant

concert of nations has made it very clear that her frontiers are watched over by a moral and physical force which she could never muster alone.

In economics as in politics, the fact that human beings with personal memories and group histories are concerned injects certain imponderable factors which it would be foolish to ignore. Old aspirations get translated into disconcerting new ones. Recurrent wars and the burden of oversized military establishments long tended to keep southeastern Europe poor and primitive. These countries could not keep their large armies in the field very long unassisted for want of industrial and financial power. In a general war, the sinews were provided by highly industrialized allies. Thus the Balkan armies were large relative to the populations during the World War. This is one reason why the human losses of Serbia, Rumania, and Bulgaria were so heavy. It is disappointing but not incomprehensible that a generation of politicians which grew up under the old conditions should hanker after national self-sufficiency, trying to cure the old weakness in respect of sustained military force at the expense of embracing the new opportunities for gaining solid economic prosperity by a more profitable international division of labor.

Imperialism is not dead, but there never was any attempt so serious as the present one to weaken or remove its main causes. The distribution of population and resources in the world is quite uneven. Where the flow of the people toward the resources, and vice versa, is arbitrarily interfered with by political means, the process is often called "economic imperialism." Economics is only the aim and the tool, however. Imperialism is really political, and is always associated with the *citizenship* of the people who move, the *nationality* of the capital invested, and the *political frontiers* crossed by the goods involved. The Balkan countries are thinly populated relative to their natural resources. Their Governments are quite willing for Italians, Hungarians, and others to come in with their capital and skill, provided this is not later made the occasion for political and military demonstrations or the

economic draining of the countries by people who remain a source of domestic weakness and foreign strength. Likewise the French do not object to Italian immigration into the home country or French North Africa as long as the movement is strictly non-political.

There is no great lasting problem in the case of the Italian in France or Tunis, because if he becomes naturalized he has all the practical advantages which he possessed before, and even some new ones — it is a question of national sentiment, which changes with long residence. The Italian, German, or other foreign business man in the Balkans, however, finds his citizenship a protection rather than a hindrance. If enterprise were as well regulated and safely guarded under Rumanian laws and justice as in Great Britain, Holland, America, and France, the mining law of 1924 which aimed at forcing 55 per cent of the stock of petroleum companies into the hands of Rumanian citizens would not have been so bitterly protested. Some big person in each firm could have become a Rumanian citizen, just as Sir Henri Deterding, of the old Royal Dutch Oil Company, was finally naturalized in Great Britain after his firm combined with the Shell Transport and Trading Company. There is a practical issue here which cannot be dodged, no matter how "liberal" our sentiments toward small countries may be. Rumania wants foreign capital and technical skill. They come in under certain guarantees, specific or implied, laying down conditions to safeguard the investments and make returns fairly certain. It is not just to say that this is purely a one-sided arrangement. Rumania taxes these enterprises. They pay wages, furnish traffic, and buy goods. The further point which is often overlooked is that when foreign concerns go to more primitive regions without guarantees, they insist upon much larger returns to cover the element of risk.

Since capital represents savings from productive enterprise, its creation and flow can be regulated by political action only within limits. Both capital and the specialized skill which is accumulated along with it will work somewhat

more cheaply under familiar conditions than unfamiliar ones. A Dutch refinery superintendent who goes to Rumania to live not only gets transportation for himself, his family and their personal effects, but he usually thinks he is bettering his position. Investors in Great Britain, the Netherlands, or America expect higher interest returns or speculative profits on their funds which work in the Balkans than those tied up in home enterprises. If a country like Rumania erects political barriers to foreign capital, it raises the interest charge to what capital will work for under the new conditions. Political control by tariffs over the influx of goods is limited by what the domestic market will stand. The want of industrial capital is usually the reflection of conditions under which it cannot profitably work. Meet those conditions, and the capital comes in; meet some of them and less of it comes at higher interest rates; or meet none of them and it stays out.

SUGGESTIONS FOR FURTHER READING

Annuarul Statistic al Romaniei. Bucharest (Rumanian and French text).

Badulescu, V. V.: *Les Finances publiques de la Roumanie.*

Buchan, John (ed.): *Yugoslavia.* In "Nations of To-day" series. (Also volume on Bulgaria and Rumania.)

Bulgaria of To-day. Translation of book edited by Bulgarian Ministry of Commerce and Agriculture, 1906.

*Day, Clive: "The Pre-War Commerce and the Commercial Approaches of the Balkan Peninsula, in *Geographical Review*, 1920, vol. 9, pp. 277–98.

Department of Overseas Trade Reports, Annual Series.

Evans, L. P.: *The Agrarian Revolution in Rumania.*

Guest, L. Haden: *The Struggle for Power in Europe*, 1917–21. Chaps. VIII, IX. (Rumania and Bulgaria, esp. chap. IX on Bulgaria.)

*Iaranoff, Athanase: *La Bulgarie économique.*

Irvine, Helen D.: *The Making of Rural Europe*, chaps. XI–XII.

Knight, M. M.: "Peasant Coöperation and Agrarian Reform in Rumania," *Political Science Quarterly*, 1920, vol. XXXV, pp. 1–29.

La Roumanie Économique.

*Léfeuvre-Méaulle, H.: *La Grèce, economique et financière.*

Logio, G. C.: *Bulgaria: Problems and Politics.*

*Nedelkovitch, M.: *Economic and Financial Review of the Kingdom of the Serbs, Croats and Slovenes.*

"New Agrarian Legislation in Central Europe," in *International Labour Review*, September, 1922, pp. 345–63.

*Newbigin, M. I.: *Geographical Aspects of Balkan Problems in Relation to the Great European War.*
Onciul, A.: *Wirtschaftpolitisches Handbuch von Rumänien.*
**Rumania, an Economic Handbook.* United States Department of Commerce, Washington, 1924.
Slowinski, L.: *Die Wirtschaftliche Lage und Zukunft der Republik Polen.*
Stainof, P.: *Compétence et Democratie.*
Thomas, W. I., and Znaniecki, F.: *The Polish Peasant in Europe and America.* 5 vols.
Tsouderos, E. J.: *Le relèvement économique de la Grèce.*
Zebitch, M.: *La Serbie agricole et sa démocratie.*

CHAPTER XV

RUSSIA

RESULTS OF THE PEASANT EMANCIPATION

The Crimean War (1854–56) against Turkey, England, France, and Sardinia crystallized a growing conviction in the minds of upper-class Russians that competition — either military or economic — with industrialized western Europe promised disaster, and that the old order must go. Thus the initial Russian agrarian reform of 1859–66 was precipitated by the same event as the simultaneous and largely similar one in Rumania, considered above. The war was, however, rather the occasion than the real cause of the emancipation, the economic weakness of the old order having been recognized for many years. Even more than in Rumania, because of the age and strength of the central Government, the details of the reform scheme in Russia were left to the upper classes. Their revolutionary ardor was considerable at the outset.

Many soon found their economic interests threatened, however. Others became disillusioned by encounters with the inertia and ignorance of the peasant masses — an apathy which gave way most unaccountably to violence at times. In the end, the groups which knew exactly and in concrete terms what they wanted, and organized themselves to get it, arrived at a compromise arrangement which became the basis of the new order. As in Rumania, a very strong drift backward toward the old régime set in, the Crown, the aristocracy, and the wealthy business elements tending to combine against the inadequately organized peasantry. The wars of the sixties and seventies in various parts of the world were accompanied by financial, marketing, and other economic disturbances — and the tariff wars which began in the eighties greatly complicated the attempts of backward

countries such as Russia to introduce the Western economic order.

Some 47,000,000 Russian serfs were liberated in the sixties, including house servants, factory workers, and miners as well as peasants. At the outset, the proprietors in the rich southern provinces had wanted simple liberation without giving the peasants any land. This did not suit the upper classes in the north, where the land was less productive and much of the economic advantage of serfdom came from industry. Some plants used their own or state serfs as laborers. Others hired serfs from the estates, either all or part of each year, and the masters got handsome revenues from the fees exacted. As a compromise between the demands from different regions and interests, compensation was granted to the lords for the loss of servile dues. In the agricultural regions, this amounted in practice to the same thing as payment for the land, which was divided. Altogether, the freed serfs got over 350,000,000 acres — half the agricultural land of the Empire. This was subject to the payment of forty-nine redemption annuities from the new peasant owners to the State, which immediately compensated the proprietors for the loss of advantage under the new system. On the whole, the proprietors, who had the ear of the Government, were extremely well paid. The peasants quite generally found it impossible to pay the annuities, with interest, the sum total of arrears accumulating until finally canceled, together with all future obligations, during the revolutionary period of 1904–06.

Most of Russia had been organized by *mirs*, or agricultural village settlements. Where this was the case, the land was given to the *mir* collectively, not to individual cultivators, and it was the group which was made responsible to the State. The system of scattered strips was still generally in vogue, and it was not thought desirable to add consolidation to a program already complicated. Moreover, modern nationalism had reached Russia, and many vehement patriots among the intelligentsia thought they saw peculiar virtues in a system of association and exploitation deemed to be

typically Russian. A peasant was not permitted to sell or mortgage the land he occupied — technically, after as before 1861, he owned a *share* in the village, not a particular surface of land. Even this share was now held subject to his portion of the annuity payments assigned to his *mir*. Since the *mir* was collectively responsible for this sum, it is not surprising to find it endowed with the right to redistribute holdings from time to time, on the assumption that the land must be put in the hands of those best calculated to make it produce, and thus to meet a share of the various payments to the Government. Collective responsibility of the village still existed. Instead of being bound to a proprietor, the peasant was now practically the serf of the State, with his dues commuted to money payments and assessed by the village organization as the representative of the Government. The individual peasant was far better off in some respects than he had been as a serf, but he nevertheless suffered the great disadvantage that his payments and means of payment were not definitely fixed.

Under the emancipation act, peasant holdings averaged about 13 acres for the 50 "governments" of European Russia, but the cultivators on the rich black lands in the south had less than half of this amount. The allotments proved quite insufficient, especially as the population increased rapidly. Emigration to the less crowded areas of Siberia was hampered by all sorts of regulations and restrictions. Moreover, the opening-up of this vast region was extremely difficult for want of transportation facilities. The rivers run north and south — especially into Arctic waters which are of little use as traffic lanes. Even more than was the case in western America, settlement had to wait upon railway building, and the single line of the Trans-Siberian Railway was not completed until 1905.

Increasing exploitation of a great mass of poorer peasants was inherent in the emancipation scheme, in spite of all safeguards such as the legal barriers to the sale of holdings. Most of us have had opportunity to observe that a great many people, no matter how honest and industrious they may be,

seem to lack the qualities necessary for success in business for themselves. This proved true of peasant farming in both Russia and Rumania at this period. In practice, something had to be done about the peasant who proved unable to meet his obligations. While in Russia he could not sell his share in the village outright, he might relinquish his rights for a period of time — even a decade or more — under a contract which was binding in the courts. Moreover, the *mir* might take away his rights and confer them upon another because of non-payment of obligations.

That such powerful community rights were not always justly or equitably exercised will be correctly surmised by any one familiar with the workings of local politics. As population increased and the average amount of land per peasant correspondingly decreased, the smaller holdings became practically useless unless they could be supplemented by renting or purchase. New blocks of land were often either rented or purchased outright by the commune as a group. In assigning these areas, the richer and more influential peasants of a given *mir* looked after themselves and their friends. An increasing class of landless, or practically landless, peasants appeared, with its counterpart in another wealthier class with adequate holdings, more stock and better machinery. The latter class grew more prosperous, the former less so, until peasant Russia was practically divided into two parts, a landed, influential group and a mass of poor people resembling the cotters of western Europe at the time the medieval system broke up. These furnished a potential reserve of industrial proletarians for the towns. In the meantime, their need of supplementary income helped in building up a vast cottage industry which hindered the introduction of the factory system. Moreover, the very poverty of these potential factory laborers was a serious handicap to the growth of industry, as it entailed low purchasing power. It was long customary for peasants to do factory work during the winter season only, when there was little to do in their agricultural communities.

Russia being mainly a peasant country, the heavy burden of the regular taxes for maintaining the Government, as well as that of the redemption annuities, fell largely upon the villages. Even before the Crimean War, the annual budget had shown a chronic deficit. For the twenty years ending with 1863, the sum of these amounted to 1,154,000,000 rubles, or a little over half as many dollars. Most of this huge amount had been covered by secret borrowings from state savings institutions. When this fact became known through a lowering of the interest rate and consequent attempts of depositors to withdraw their funds, the Government had to cover the shortage by state loans. To the great and growing national debt was eventually added most of the redemption annuities which the Government failed to recover from the peasants, and the expenses of another exhausting war — that with Turkey in 1877–78 — besides new deficits and the accumulated interest on old ones. Much of the terrorism and peasant revolutionary sentiment of the thirty years following the emancipation must be attributed to the crushing burden of an imperialism for which the villagers generally had not the slightest enthusiasm. During the Balkan campaigns of 1877–78, Russian officers repeatedly deplored the effect upon their soldiery of observing that the Slavs they had come to "liberate" already lived under better conditions than the liberators.

In order to create a favorable balance of trade and establish credits abroad, the Government had recourse to devious and questionable devices. For example, tax collectors were especially active in the fall, when the stocks of grain were largest, with the result that the peasants oversold. This often produced a shortage even of seed, but it did create an exportable surplus and prevented a flight of precious metals to meet payments abroad. The grain shortage following the great famine of 1891 convinced a reluctant bureaucracy that Russia would be bankrupt unless her whole economic system could be modernized. Thus the Industrial Revolution was encouraged in Russia, not because the ruling classes wanted

it, or had anything but abhorrence for its social implications, but because it seemed the only alternative to financial chaos. The new methods were being introduced by foreign and Russian capitalists anyway, so at the outset the move of the bureaucracy was little more than an attempt to control a situation which had already arisen.

The peasant's lot was hardly improved by the industrialization which increased rapidly after this famine period and the removal of government opposition. The new program involved heavy imports of raw and half-finished materials, as well as of machinery. With a number of poor crops and generally low grain prices during the nineties, the peasants were in great misery, and the favorable balance of trade was quite small — in 1899, it was even adverse. Peasant disorders were in no small measure responsible for the Government's decision to fight Japan in 1904. Instead of the unity and strengthened morale which a patriotic appeal and a successful military adventure sometimes produce, the result was a disgraceful defeat and a revolution. The redemption annuities were finally canceled, a move which had little real significance, since most of them were uncollectible anyway. Interest still had to be paid upon that part of the national debt which they represented. Burdened with a new war debt of 2,442,000,000 rubles, the budget was henceforth hopelessly out of balance, and a huge deficit had to be covered by foreign borrowing, after the taxpayers had contributed the utmost which the Government could get out of them.

More important than this shift of a financial burden from one pocket to another was the legal destruction of the old *mir* in the land laws of 1910 and 1911 which followed the *ukaz* or decree of 1906. Any villager might now demand the conversion of his share into a private holding, and it would be done if a simple majority of the village assembly consented. Such a holding was always to be in a single block if possible. A resolution passed by a simple majority vote of the assembly might convert all the land in a village into private holdings at a stroke. Conversion to private property was to be auto-

matic in all cases where no reassignment had taken place since the passage of the Emancipation Act. If one fifth of the householders of a village should demand a consolidation of holdings, it could not be refused. The legal end of the old *mir* was especially obvious in the provision abolishing family tenure and substituting the individual ownership of the chief householder.

These changes, no matter how sweeping they may appear on paper, did not actually change village life very much, or alleviate the misery of the mass of peasants. A comparison of the grain consumption in Russia and the United States, in kilograms per person annually, gives us 1108 for the latter and only 381 for the former. The German consumption on the same basis was 497, and the Rumanian 420. In comparing Russia with a Western country like America, it must be remembered that our people consume enormous quantities of meat, eggs, fruits, and other things, the Russian relying more upon grain, potatoes, and other staple foods of non-animal origin. It has been calculated that the per-capita consumption of eggs in Russia in 1903 was about one per week in the cities and one in seven weeks for the villages, though the number exported that year was 1,996,000,000. There was almost no meat in the diet of the eastern European peasant, and of the many millions of pounds of butter produced annually, most was exported. A Russian authority estimated that before the World War two thirds of the peasant population was unable to live on the land in a condition above abject misery without some supplementary occupation. Some notion of the standard of living is suggested by the fact that the per-capita consumption of agricultural products in 1913 was only $21.

The legal encroachments upon the historic *mir* in favor of private proprietorship under the Stolypin land acts mentioned above was intended as a sop to the more prosperous elements, and was never generally popular with the peasantry. As a matter of fact, it was chiefly the very small proprietors who demanded the separation of their holdings.

The peasants never lost sight of the main point, which was that a high percentage of the land they coveted, and regarded as rightfully theirs, was still in the hands of large proprietors.

THE GROWTH OF INDUSTRY

As suggested above, the industrialization of Russia began in earnest in the early 1890's. Since the time of Peter the Great (d. 1725), or even earlier, a few people had recognized the greater force and cohesion of the new type of society growing up in the West, and had seen the necessity of copying some features of it. For example, Peter's early military ventures showed him forcibly the need for cannon and engineering materials if he was to compete with the cordon of French satellites—Sweden, Poland, and Turkey—which shut him off from the West. Besides his military attempts to break through to a "window" toward the West, Peter made some partially successful moves to profit by the Western advances in economic organization which had accompanied the expansion of Europe. Perhaps the most lasting was a vast and well-conceived internal waterways plan, including both canals and the improvement of river channels. This made progress until past the middle of the nineteenth century, when both canals and rivers began to be neglected by the Czar's Government for fear they might compete with the new railways. The Russian system of inland waters — some 200,000 miles in length — is even better naturally than that of the United States. In neither case could so vast a territory be economically knit together without railways. Russia's industrial development has marched with the growth of the railway system.

The 400-mile railway from Petrograd to Moscow, begun in 1843, was the first important line in Russia. By 1864 some 2100 miles were constructed, and this figure was multiplied by about ten during the following thirty years. In spite of her much greater size and population than the United States, at the outbreak of the World War, Russia had only about 46,600 miles of railways in operation, as compared with

our 261,000 miles. Students of American history will recall that the old idea of railways as mere auxiliaries and connecting links for internal waterways was definitely discarded after the Civil War, and that trunk lines as the main transportation system first made possible the complete settlement of our great western plains. A slower development of the same sort began in the vast plain of European and Asiatic Russia. Economically, contemporary Russia and America have grown up on the basis of the cheap mechanical transportation of such bulky commodities as grains and live stock. Russia has made much less progress, but her problem has been far more difficult — especially because of the question of commercial outlets toward the Atlantic. Much of her energy has been dissipated in the struggle for these "windows," and she has also groaned under the Continental necessity of making her railway system fit military as well as purely economic needs.

Of the 10,000 "factories" commonly attributed to Russia in the period just before the emancipation, many were hardly worthy of the name. About 460,000 workmen were employed in them, roughly one third serfs. Most of this third, and also many of the remaining industrial workers, still had some affiliation with agricultural villages somewhere in Russia. Upon their release from bondage, a large fraction of the serfs and many of the others left the industries to seek land for themselves. The American Civil War, then in progress, was paralyzing the European cotton industry. Iron and steel manufactures in Russia were under still worse handicaps, as the Bessemer and other inventions were just then cheapening the western European product. The European wars for liberation or unification did not close until a decade after 1861. Taken together, the wars of this period prevented the flow of Western capital into Russia at a critical time in her history, and delayed the eastward march of the Industrial Revolution, though the railway system was greatly extended. Not only was the decade of the 1870's one of financial stringency, but it also brought Russia the expensive and rela-

tively fruitless war with Turkey, whose concluding peace at Berlin created so many heartburnings and fears that it may be said to mark the beginnings of the system of alliances which produced the World War of 1914.

We lay ourselves liable to all sorts of errors if we try to think of "the Russian Industrial Revolution," when we mean merely the Russian phase of a movement which took place elsewhere for the most part. England in the eighteenth century was a great commercial nation, with vast, developed oversea markets for her manufactures, while Russia in the nineteenth century faced insuperable difficulties in trying to protect even her home market against well-established foreign factories. Grain was what western Europe wanted from Russia — as late as the decade 1881–90, the United Kingdom was drawing nearly two thirds of its wheat imports from that source. Finally, given the village system, the meager transportation facilities, and the overwhelming importance of the home market, it was inevitable that Russian house industry and small plants — coöperative and otherwise — should prove obstinate competitors to the factories.

The first year of the great famine, 1891, marks a fairly definite turning-point in Russian economic history. The tariff war with Germany had reached a climax. Germany's attempt to force down the exorbitant Russian rates by raising her own had the opposite effect of drawing Russia and France together. These two adopted a mutual policy favoring each others' goods at Germany's expense. Russia also needed a foreign creditor, and France was in the market for a military ally against Italy and Germany. Thus in 1891, out of a combination of circumstances, appeared the Franco-Russian secret alliance which was to play so great a rôle in European affairs down to its dissolution and the publication of its terms in revolutionary Russia in 1917. As a result of the grain famine, Russia's exports in 1892 fell from the 1887–91 average of 722 million rubles a year to only 476 million. Imports were already at a minimum, and actually rose from 401 to 404 millions of rubles for the same dates. Moreover, the

average unfavorable bullion and specie balance of 9 millions for 1887–91 rose to 109 millions in 1892. For a country with an enormous debt placed abroad, this shift from a net favorable trade and specie balance, taken together, of 321 millions to an unfavorable one of 37 millions spelled ruin unless something radical could be done. This gives us the setting in which the Russian ruling classes, quite against their desires and ingrained prejudices adopted a policy of industrialization.

The years 1893–99 constitute the most striking single period of industrial and commercial change, the outstanding figure being Count Sergius Witte, who was appointed Minister of Finance and Commerce in 1893. His curious vacillation between advanced industrial policies and reactionary social ones is easiest to explain on the assumption that in so far as he was a liberal, it was from economic necessity. One of his first moves was to make a ten-year commercial peace with Germany in 1894. Germans were thus enabled to play an important rôle in Russian industrial expansion, and to assume the leading part in the country's foreign trade.

During the two decades which elapsed between that time and the World War, the total Russian state debt increased from 5,775,000,000 to about 8,800,000,000 gold rubles. The foreign part of this increased from 1,733,000,000 gold rubles on January 1, 1895 to 4,229,000,000 on January 1, 1914, or from 30 to 48 per cent of the total. France, Russia's military ally, held four fifths of the strictly government debt, and was thus in a position to see that military railways and other war preparations were not neglected. Great Britain held most of the remainder. Of a foreign industrial investment of some two billion rubles, France furnished nearly a third, Great Britain a fourth, Germany and Belgium nearly a sixth each. Gradually a curious situation appeared, in which central Europe controlled the lion's share of Russia's foreign commerce, collecting a handsome trade balance yearly, while western Europe collected a heavy balance of payments on

investments in Russia and wielded great power, through the budget, on the policies of the Russian State.

The western European military supporters of Russia were not all in the same economic position, however — an important fact to remember in trying to understand their post-war attitudes. France was chiefly the investor, collecting cash revenues, while Great Britain was easily second in Russia's foreign trade, her total being about half that of Germany. Thus England had less to lose by a Russian repudiation of old debts and more to gain by a resumption of commerce. The United States had an unimportant share of the total Russian pre-war trade, as compared with the great European powers. In searching for some solid and comprehensible reason for the similarity of French and American pronouncements against recognition, the eye is caught by the fact that 6 per cent of the old industrial securities and 7 per cent of the enormous war debt of Russia were placed in the United States. If we look for an economic explanation of French recognition (1924) and American non-recognition (to 1927), the eye is caught by the foreign trade figures. France had a much smaller percentage of the Russian trade at the time she recognized the Soviet Government than in the pre-war period (1909–13 average). Without according recognition, and thus prejudicing her debt claims, the United States has already made considerable headway in the trade with Russia.[1]

In 1890 there were still fewer than a million and a half workmen employed in factories and foundries — about three times the number in similar plants in 1861. The industrial output rose from 1,503,000,000 rubles in 1890 to 3,439,000,000 in 1900, and to 5,738,000,000 in 1912. To this last figure, something like 50 per cent should be added for the smaller, handicraft shops. Prices rose considerably during the period, so that the figures in rubles give a somewhat exaggerated idea of the progress made. Aside from transportation and mining, the most important industries were the tex-

[1] Zimand, Savel: *State Capitalism in Russia.* chap. I and table on p. 25 (ch. IV).

tiles, metals, and various food-working groups. Textiles alone employed more than a third of all the industrial workers, the value of the product being slightly less than a third of the total. Just before the World War, the Russian cotton industry had nearly 9,000,000 spindles, as compared with slightly over 30,000,000 in the United States and about 55,000,000 in Great Britain.[1] Metal-working came second in number employed, which was about a fourth of the total, if railway and naval shops are included. The output was only a sixth of the total, however. Food industries employed only a sixth of the industrial personnel, but produced more than a third of the whole output as calculated in rubles.

Russia maintained about the same rate of industrial increase during this period as did the United States, which means a considerable gain on western European countries. Too much stress should not be placed upon a *rate* of increase, however, since it may be easier to double the small industrial output of a slightly industrialized country than to add a fourth to that of one already highly developed. Between 1895 and 1909, the value of Russian manufactures rose from $1,470,000,000 to $2,540,000,000, while the figures for the United States were approximately $11,400,000,000 and $20,672,000,000, showing slightly under 100 per cent growth in both cases. At the outbreak of the World War, Russia was using about 2,500,000 horsepower in manufacturing, the United States 22,500,000. In 1895 about $5,000,000 worth of agricultural machinery and implements were imported into Russia, and the output of factories within the country was only slightly less. By 1912 the importations had increased to $30,000,000 worth, and the domestic output of $27,000,000 represented a growth at about the same rate. Such figures do not suggest any revolutionary change in the lives of some

[1] The number of spindles, while the basis ordinarily used for comparison, is a very imperfect index of the importance of textile manufactures. The Russian spindles used far more cotton relative to their number than did the American, and the American than the British. This means that Russia was producing coarser fabrics, of less value per yard, than America, and America than Great Britain.

180,000,000 Russians. If we put the peasantry at 140,000,000, the combined imports and manufactures of agricultural machinery in 1912 still amounted to considerably less than fifty cents per peasant.

That Russia was making progress toward independence of foreign raw materials in some lines at least, is easily shown. Take for example the consumption of home grown and imported cotton. In 1895 118,800,000 pounds of domestic and 295,200,000 pounds of imported cotton were used in Russian mills. Over 70 per cent of the total of 414,000,000 pounds was imported. By 1912 the imports had increased a little over 34 per cent, the domestic supply 300 per cent, and Russia was producing 57 per cent of her own raw cotton. To partially offset this, the imports of spun cotton, by weight, increased over twice as much between 1906 and 1911 as did the Russian output.

Almost any industry we may look into likewise shows increased activity, partially or completely balanced, in some cases even overbalanced, by rising imports. Consumption of raw wool increased, and production slightly decreased, so that the importations of raw and semiworked materials exceeded the exports more and more. The pig-iron output in 1894 was only 80 million poods (of 36 pounds, avoirdupois), increasing swiftly to 283 million poods in 1913. Demand for iron kept ahead of the increase in supply, however, and just before the war Russia was importing a small percentage of her annual requirements. Coal production increased from about a million poods in 1900 to 2,213,000 in 1913, with imports running from 16 to 24 per cent of the domestic supply. A little coal was exported every year — somewhat less than one half of one per cent of the output. These exports and imports of the same commodities resulted from the long distances and inadequate transportation facilities. For example, the coal exports were from the south and the imports into the north. The peak of the petroleum output (chiefly around Baku) was reached in 1901, at 700,000,000 poods, or half the world supply. Just before the 1905 revolution, it

had fallen to 112,000,000 poods. Incident to the disorders of the next two years, it fell almost to a third of the above figure. A gradual recovery then set in, and the output just before the war was about half that of 1904. Some industrial development is indicated by the percentages of this oil exported, about 30 per cent at the peak and only about 12 per cent in 1913. Though Russia is potentially one of the largest petroleum producers in the world, she is far behind the United States, which ranks first. In millions of tons produced annually, the ratio for 1912–13 was only 9.2 to our 29, and oil represented only 4 per cent of the Russian exports.

In spite of the imposing grand totals, per-capita figures show that Russian economic life was vastly more primitive than ours just before the war. For each inhabitant of the United States, 5.12 tons of coal were mined (average, 1912–13); for Russia the figure was less than a fifth of one ton. Comparing the horse power used in manufacturing *per inhabitant*, we get 0.23 for the United States and 0.014 for Russia. The American yield of wheat per acre is low because of extensive methods of cultivation with machinery, but before the war it averaged nearly 50 per cent higher than that of Russia, where machine methods were not extensively used. For the period 1907–13, the Russian crop averaged only 10 bushels per acre, or about half the French. The Rumanian yield per acre was more than one and a half times as large, the per-capita yield nearly two and a half times. The Canadian yield per acre was not far from twice the Russian, the per-capita yield nearly seven times greater. As a maritime power, Imperial Russia was relatively insignificant, ranking between Holland and Denmark. Nine tenths of the shipping visiting Russian ports was foreign. In a highly industrialized country like England, carrier services go far toward correcting an unfavorable balance of trade, but in an undeveloped land like Russia, this item is *added* to that unfavorable balance.

Looking at Russia's trade with the United Kingdom alone for two or three decades before the war, we might easily get

an exaggerated notion of the progress toward industrial and financial self-sufficiency. It is a striking fact that the United Kingdom got only 10.7 per cent of its wheat imports from Russia during the years 1911–13, as compared with 63.9 per cent in the decade 1881–90. This is related — one might say complementary — to the steady decline in the percentage of Russian imports supplied by Great Britain. The change is not to be accounted for entirely, or even chiefly, however, by the growth of industries and of a proletarian population to be fed in Russia. Part of it represents the increasing commercial penetration of Russia by Germans at the expense of the British. Germany passed England just before the end of the nineteenth century, and by 1914 was supplying nearly half of Russia's imports. Again we must be cautious not to overinterpret our figures. This was not the lethal blow at British commerce which it appears to be at a glance. New sources of wheat had arisen, especially convenient to a maritime power like Great Britain. Most noteworthy were Canada and the Argentine, the total wheat exports of the former passing those of Russia in 1911–12.

As in the case of the Balkans, central Europe played an increasing rôle in Russian foreign trade during the twenty years just before the war. The figures also show a similar tendency with respect to the balance of trade. The percentage of Russia's exports taken by western Europe declined between 1894 and 1903, while that taken by central Europe increased, but western Europe was still slightly in the lead. With imports it is a different story, central Europe furnishing 31.3 per cent in 1894 and 41.1 per cent in 1903, western Europe dropping in the same period from 33.8 to 23.3 per cent. In 1913 central Europe took 45.8 per cent of Russia's exports and furnished 51.6 per cent of her imports, while western Europe took 33.4 per cent and furnished only 18.6 per cent. Moreover, Germany's balance in the Russian trade was nearly always favorable after 1894, that of France, Great Britain and Belgium being as uniformly adverse.

Count Witte's economic reform policies thus raised almost as many new difficulties as he was able to solve. The attempt to industrialize Russia so as to increase exports and furnish a source for credit balances abroad resulted in an equally rapid increase of imports. The total trade balance was generally favorable up to the war, but not so much so as in the period before 1891. Against this balance was an enormous adverse one of payments. In the first place, Russia as an industrial and a more or less "thawed" trading power had to adopt a gold basis (1879), which involved large imports of specie. Added to this charge was a heavy one for various kinds of services, such as insurance, banking, and carriage. Interest on the old Russian foreign debt, and on new state, municipal, state-guaranteed, and private industrial securities was added to an adverse balance of payments which more than offset the favorable balance of trade. A certain artificiality in railway and industrial development resulted from government encouragement of such enterprises as were favored by foreign investors. The old Russian Government was in great and increasing financial difficulties even before the World War.

Unable to balance the budget, the Government divided it into two parts, an "ordinary" budget, which practically balanced, and an "extraordinary" one which ran worse and worse into arrears, to be covered by new borrowing. The Russo-Japanese war debt of 2,442,000,000 rubles was perhaps the final straw which made it impossible to balance both. These "extraordinary" expenses, which went on from year to year, included various military expeditions and preparations, the building of railways (partially for strategic purposes, on the western and other frontiers), port construction, redemption of old loans, and a considerable sum for famine relief. Some items were repeatedly under fire from critics of the military alliance with France against the central European powers.

Pre-war Russia thus presents us a general picture of a vast peasant country, with poorly tilled fields, a transportation

system totally inadequate really to unify it, and, superimposed, an artificially stimulated industrial order. Two fairly well-defined types of economic institutions clashed at many points. First, there was some large-scale industry of the Western sort, fostered by the Government largely for its own financial, military and political purposes, and probably two thirds of it under control, directly or indirectly, of the great banks. Alongside this hothouse-cultivated importation from the West there had grown up a vast network of co-operative enterprises of the same general type discussed above in connection with the Balkans.

COÖPERATION

Russian coöperative institutions correspond only partially to those of western Europe. The difficulty of defining and classifying the "coöperatives," in the technical Western sense of the term, is insuperable. Hence it is impossible, except in a loose and arbitrary way, to give the numbers, either of all taken together or of any of the various types. In a basically different society like that of eastern Europe, just where does a coöperative shade off into a real capitalistic corporation on the one hand, or a less formal, more temporary voluntary association on the other? All of the widely discrepant figures which the student may encounter are subject to the same general criticism: that they try to set down in formal terms a coöperative system which is largely informal, and inevitably obscure many details of likeness and unlikeness.

As among the Balkan Slavs, blood relationship continued to play an important rôle in economic units, larger than the family, well into the nineteenth century — to some extent into the twentieth. Besides the enlarged family-community, discussed above in connection with the South Slavs (*Zadruga*), there were the Russian *artels*. These non-kinship associations were very old, but they stood out particularly in the period of decline of the enlarged family units, sometimes serving as a sort of transitional stage between the kinship group and types more familiar to us. In Old Russia, groups

of peasants or artisans often worked together as "teams," suggestive of the associations of journeymen in western Europe which finally disappeared into the labor unions during the past century. These *artels*, as they were called, were often communistic in the sense that the expenses and profits of the enterprise were shared in common. Frequently they were quite informal, without written agreements of any kind. We might say that they were coöperative without being "cooperatives."

Nor did the *artels* necessarily become coöperatives when formally organized — often the wealthier men became genuine capitalists on a small scale, the others merely hired workmen. Enthusiastic populists tried to introduce system and uniformity by following western European coöperative principles, such as the Rochdale, Schulze-Delitzsch, and Raiffeisen. Where the members of *artels* were mere workmen, practically without capital, employers often found it convenient to deal with the group rather than with its component individuals, wherein we see the nucleus of the later trade union.

Consumers' coöperation of the type familiar to us in the West made its formal beginning among the German elements of the Baltic provinces in 1865. It was in the form of Schulze-Delitzsch stores. Later, as the movement spread among the Slavs, it turned more to Rochdale principles. In 1865 there were about 800 coöperative societies in England and 200 in Germany. Within a decade of this beginning date in Russia, there were between 350 and 400 coöperatives of all kinds in the country. The consumers' societies were still in a precarious position. Most of them were in the cities, and benefited the middle and upper classes rather than the workers. Beginning with 1870, some workers' coöperative stores were founded, but it was a common thing for the employers to hold a controlling interest, so that they actually formed a weapon against the working class in case of strike, and were often mere cloaks for a truck system of payment in place of cash wages. Very few of these early coöperative stores have

survived to the present, though a large number came and went. Between 1875 and 1891 186 new societies were registered with the Government.

The famine of the year 1891 gave a great impetus to coöperation, which, as in the Balkans, laid its enduring foundations in the decade after 1890. During the last nine years of the century, 517 new societies were registered, bringing the total number in existence to about 800. Nowhere excepting in Italy had coöperation made so rapid a growth, and Russia was to outstrip Italy in the early years of the new century. By 1904 the number of societies had increased to roughly 2000, with 700,000 members. It should be noted that this period corresponds exactly with that of a similar rapid growth of the movement in the Balkans. The real basis for comparison is of these peasant-village states with one another, not with England or other western European countries.

Credit was an important feature of Russian coöperation from the start. The Government had invested huge sums in agricultural credit schemes since the days of Catherine the Great, and after the emancipation, the *Zemstvos* or district assemblies made attempts along the same line, but with discouraging results. As elsewhere, the size of the loans and the conventional arrangements about security did not meet the needs of the peasant villages. The first coöperative credit association in Russia was founded by S. F. Luginin, a disciple of the German Schulze-Delitzsch, in 1865. These organizations multiplied rapidly, but the shares were too large, and the Schulze-Delitzsch scheme of unlimited liability also proved troublesome. Beginning with the nineties, the Raiffeisen type, with small shares and limited liability, gained ground rapidly.

Coöperation in Russia was greatly handicapped by the reactionary Government, which viewed with dark suspicion any type of association involving discussion and not under the direct auspices of either State or Church. For example, labor unions were absolutely forbidden, although they had

gained legal recognition all over western Europe. Not until 1897 was it possible to organize a coöperative without direct permission of, and registration with, the central Government. A decree of that year put the matter in the hands of the provincial governors. Uncertain as to what attitude to take toward coöperation, the Russian Government was also backward about establishing, or even allowing to be established, the needed central clearing house and general machinery for regulation. A special committee of the coöperatives themselves studied the question for two years, and reported in 1898 in favor of a special centralized banking system to deal with credit in small amounts. This report was formally accepted the following year, but had little immediate effect in practice.

Government opposition was little relaxed until the 1905 revolution. The natural tendency, observed above in connection with the Balkan States, was for coöperatives to form themselves into groups according to kind. The Moscow Union, destined to become the great central agency of cooperation, started obscurely in 1898. It began publication of a journal in 1903. The 1905 revolution suddenly removed most of the old shackles of the movement. New coöperatives sprang up almost overnight all over Russia, and the delayed general organization and centralization now proceeded rapidly. The Moscow Union called the first coöperative congress of 800 delegates in 1908. By 1915 this Union was doing an annual business of 22,000,000 rubles (a ruble was 51.46 American cents). At the outbreak of the war, there were some 33,000 coöperatives, with a membership of close to 12,000,000. The war period strained Russia's economic machinery to the breaking point, and proved particularly favorable to the growth of coöperatives. At the time of the Bolshevik Revolution of 1917, there were close to 40,000. Twenty millions of householders were affiliated with the movement, and several times that many people were affected by its activities.

THE GROWTH OF SOCIALISM IN RUSSIA

In an economically primitive country such as Russia, the leadership of intellectuals in movements for social change is inclined to be quite pronounced. The so-called "Decembrist" revolt of 1825 was a belated reverberation of the French Revolution, many young officers having fought side by side with western Europeans against Napoleon. After this revolt was stamped out by Nicholas I, the worshipful attitude toward Russian institutions known as "Slavophilism" aroused considerable enthusiasm among intellectuals, though "Westernism" did not die out. The Slavophils idealized the Russian *mir* or commune, and regarded Russian collectivism as superior to the individualism, rationalism and self-interest supposed to form the basis of action in Occidental countries. This movement was thus associated with Russian nationalism, and to a certain extent with pan-Slavism. Among its defects was that it tended to keep the country "frozen," to prevent the dissipation of her supposed perfection. It split up into various parts, and influenced the thought of groups which were not its direct descendants. For instance, it fanned the conflicting nationalism of Poles and Finns, and its attitude toward the *mir* affected the thought of both anarchists and Social Revolutionaries. As new movements sprang up in western Europe, those Russians who looked in that direction took their cues from different ones, so there was as much disunity among the "Westernists" as among the Slavophils.

Among the outstanding figures in earlier Russian anarchism was Bakunin (1814–76), whose intellectual parent was the Frenchman Proudhon. While in theory anarchism may fairly be called pacific, its Russian adherents in the period of reaction after the reforms of the sixties sowed so much hatred against a government of which the very idea was obnoxious that the movement became associated in the popular mind with terrorism and assassination. This was not a fair judgment even at that time, as many of the anarchists were opposed to terrorism, and a large proportion of the terrorists

were not anarchists at all. After the terror had become more definitely associated with Populism (see below), the anarchist movement fell into the hands of such pacific and constructive thinkers as Prince Kropotkin. Russian anarchism inherited some elements, of the old Slavophilism, as well as the ideas of western Europeans like Godwin, Shelley, and Proudhon.

Utopian socialism reached Russia to some slight extent, and Marxism was introduced about 1860, apparently by Tchernishevsky, who was also influenced by Bentham and Mill. Tchernishevsky was somewhat of a Slavophil as well as a socialist. For example, he thought that, given her peculiar communal system, the experience of other European countries to study, and the leadership of intellectuals, Russia might pass immediately from communism to collectivism or socialism, skipping the intermediate "stage" of individualism or "democracy." Thus Marxism took root in Russia in a considerably modified form at the outset. The above modification represented the ideal of a group of populists (*Narodniki*) which gradually won the leadership of the radical peasantry. This "Party of the People's Will" took over the idea of educating the masses in revolutionary doctrines, and, like one group of the earlier anarchists, practiced terrorism. Alexander II was one of its victims in 1881. Nicolai Lenin's older brother was hanged in 1887 for complicity in a plot to assassinate the emperor. The execution profoundly affected the younger Ulianov (better known under his adopted name Lenin), and also Kerensky, who had known the older brother well.

While socialism is particularly interesting in view of the events of 1917 and following years, it should be remembered that one group of radical socialists was able to utilize the force of the whole movement, and to pluck the fruits of at least five other types of opposition to the old régime in Russia:

(1) Disorganized peasant opposition, manifesting itself in scattered uprisings. This was perhaps the most important of the five.

(2) Proletarian discontent, showing itself particularly in the form of strikes, as dissociated from any political program like socialism.
(3) Political liberalism, especially as manifested in the Zemstvos or provincial assemblies.
(4) Nationalistic movements in various non-Russian parts of the empire
(5) Anarchism.

These often clashed with each other. It was a fortunate combination of circumstances, as well as excellent organization, which finally elevated the radical socialists or Bolsheviks to power. In the overwhelmingly numerous medley of conflicting Russian groups, it was always inevitable that any one group which got into power must first placate some of the others and then begin to compromise with them — which is just what the Bolsheviks did after the Revolution of 1917.

Up to 1879, the populists included both peasants and wage-workers. There was then little industry in Russia, separate from farming operations, and a large part of what existed was carried on by peasants who moved near the factories in idle seasons. In the above year, a group of real Marxian, proletarian socialists, led by Plechanov, split off from the populists. This group did not become a formal "political party" until 1898 — real parties hardly existed in 1879. The Social Democrats, as they called themselves after the organization, adhered to the "materialistic conception of history," held the conditions of making a living to be the dominant consideration in shaping the other aspects of life, and regarded the Marxian stages of economic evolution as inevitable. This attitude toward the Marxian theory of "economic predestination," as it has been aptly termed, at first led the Social Democrats to underemphasize the importance of determined leadership. To the "economic determinism," materialism and belief in mass movement of this newer group, the populists continued to oppose their idea of the social process as voluntary, idealistic and to be achieved by able, intelligent leadership. When the Social Democrats organ-

ized as a party in 1898, they took in the Jewish *Bund* — an old and highly successful organization of handicraftsmen in western Russia, especially in the clothing industry. Without the Marxists, the populists became a formal party in 1901 under the title of Social Revolutionaries — also expanded by the adherence of a large number of students.

Populism would have none of a "capitalistic stage," which was regarded as western and inferior. It was to be avoided by developing the Russian commune. As in the Balkans, great faith was pinned to producers' coöperatives, which were expected to establish practical socialism in each locality. Agriculture was to be the mainstay of the future socialistic state; but associated coöperatives would take care of all the necessary industry and commerce. This was the limit of populist thought — the ideal government was conceived to be a loose federation of communes. On the other hand, the Social Democrats thought industry would become more and more "trustified," the proletariat perfected in socialistic ideals, governmental technique and practical economics, and that in the end this majority would peacefully vote the State into its own hands.

From the launching of the party, Russian Social Democratic theory was complicated by the revisionist movement, which had just been put on a formal basis by Bernstein in Germany. The split in 1903 into Bolsheviks (or Majoritaires) and Mensheviks (or Minoritaires) was not exactly along western European lines, however. The division arose mainly over questions of tactics. Plechanov and the other Menshevik leaders clung to the evolutionary idea of social development, and hence to the function of leadership chiefly as a tool of mass movement. Lenin (Ulianov) and his associates of the Bolshevik wing thought that the stages leading to socialism might be speeded up. The peasants had proved inert, they said. Mass movement, without able and energetic guidance, had shown itself slow and ineffective. After a partial and temporary reconciliation with the Mensheviks in 1905, the Bolsheviks split permanently with them

in 1907. What occurred was that the 1905 revolution momentarily promised success, and brought a degree of coöperation between socialist groups as long as the main issue was revolution *vs.* reaction. In the end, this revolution was so complete a failure from the socialist point of view that the Bolshevik discontent with evolutionary tactics emerged as a definite conviction.

Involved in internal popular disorders, the Russian Government had allowed an unnecessary war with Japan to develop which might have sharpened patriotism and stiffened authority at home if only it had been successful. As the disgracefulness of the defeat became apparent and the taxes were increased, the Social Revolutionaries grew bolder, and one of them assassinated the unpopular Minister of the Interior. The Government tried to head off the radical labor movement by forming unions of its own among the workers, and even directing popular wrath from itself to the employer class. This alienated many of the capitalists, who resented the position into which they had been thrust and were opposed to unions of any kind. Moreover, socialists bored at the Government's "police unions" from within, and they began to degenerate into secret societies, whereupon they were abandoned.

Peaceful tactics were generally discredited. One Father Gapon became the outstanding figure in a movement at Petrograd (St. Petersburg, Leningrad) for educating the workers and bringing about peaceful reforms. The militant socialists again bored from within, and poor Father Gapon found himself in the dilemma of losing the leadership of his own group or taking a more aggressive position on current labor problems. He chose the latter course, and the famous "Red Sunday" (January 22, 1905) was the result. An immense parade bearing a petition to the Winter Palace was broken up by cavalry and many people slain. A general strike in October, 1905, seemed successful, but the Government kept promising and delaying, liberal sentiment was alienated, and the final result of the revolution was failure

from the socialist point of view. When the general strike of October forced the Government to capitulate on the general question of a constitution, it was with the Petrograd Soviet that Premier Witte negotiated. This Soviet was a central body made up of one representative for each five hundred workers in the city factories, organized into Soviets or Councils of Workingmen's Deputies. Thus began a historic movement which was to be put to a more militant use twelve years later. Trotsky (Bronstein), head of the third successive Soviet to be dissolved, arrested in 1905, was sent to Siberia, but escaped.

The details of the Government's suppression of the 1905–06 revolutionary movement and of the period of "dormant radicalism" down to 1914 are beyond the scope of this chapter. Leaders like Lenin and Trotsky lost all faith in political action, "direct action" becoming almost as much a tenet of the Bolsheviks as it had been of the Social Revolutionaries all along. Lenin's work of 1905 on *The Agrarian Programmes of Social Democracy* accused the proletariat of being too much given to abstract speculation, and of a lack of militancy. He was much impressed with the spirit of the peasantry, and urged that the radical leaders put themselves at the head of this element. As to the initial tactics of social revolution, he had deserted the original Social Democratic position, and gone over to that of the Social Revolutionaries. Historically, the peasantry which they mainly represented had been the real revolutionary class in Russia for centuries. After 1905 it was a practical certainty that any Bolshevik *coup* would look for support from the left wing of the Social Revolutionaries. The Bolsheviks also learned an important lesson from the Government's use of the army and navy in suppressing the 1905 revolution. At the first evidence of any real support at home, the Government had been able to find enough loyal units of soldiery to crush and massacre its opponents.

The Stolypin land settlement of 1906, 1910, and 1911, which put an end to the system of redemption annuities and definitely attempted to break up collective ownership in the

commune, did little or nothing to cure revolutionary discontent among the poorer peasantry. Individual ownership increased somewhat at the expense of collective holdings. The rise of coöperatives also tended to turn peasant attention toward group management, and to lay less stress upon group ownership of land.

WAR AND ECONOMIC DISINTEGRATION

Viewed after the fact, the Russian collapse seems to have been foredoomed by at least three economic factors: (1) considering the length of the war, the industrial and transport systems could not possibly keep millions of men in the field, equipped with modern appliances; (2) the withdrawal of German personnel and the stoppage of German imports aggravated the above situation, at a time when the demand was strongest for vastly increased supplies of highly specialized materials; (3) Russia's western allies found it impossible to supply her after the Turks joined the enemy and cut off the best avenue of approach, via Constantinople.

The loss of Poland in the disastrous campaign of 1915 was a body blow. Besides being an important manufacturing district, in both textiles and metals, Poland was the source of about twenty per cent of Russia's coal. Like the Balkan armies, that of Russia resembled a huge engine with a small boiler, able to turn it over only a few times before the steam went down. At the close of another discouraging campaign in 1916, the Russians were practically through. A million and a half men were dead, materials were wanting — but plentiful with the enemy, as far as the Russian peasant soldier could see — and morale was gone. Human endurance simply has its limits. The situation on this eastern front has never been really forced upon the attention of the masses of people in the West. If the soldier in France suffered from cold, at temperatures which rarely stayed below the freezing point for many days on end, what was it like in the East, with a winter climate as bitter as that of the northwestern plains of America? After two years, the Russian had not even hope

to bear him up. A good government would have been unable to meet the situation, and that of Russia was known to be as corrupt as it was incompetent. Instead of widening Russian liberties, it was busy strangling what few remained. The Duma itself — a group which should have been fairly conservative, considering the classes from which it was drawn — had been stirred to obstinate resistance to the autocracy.

Russia's *débâcle* was fairly complete before 1917. It was impossible to produce the essential materials for the armies in the country, or to get them from the seaports to the front when they could be had from allies. The single-track Trans-Siberian railway was too long, and its terminus was in the wrong place. Troop and supply movements so congested the railway system of European Russia that industry could not be adequately provided with raw materials, and the town populations could hardly be fed. Military supplies got lost, and there was hopeless confusion. Because of this partial paralysis of internal transport, of the submarine campaign, and of the distances, the railway to the Murman coast was of comparatively little use after it was finished. The crumbling of military discipline was aggravated by the terrific losses among the brave and well-trained old Imperial officers — a corollary of the want of material equipment. Many Austro-Hungarian units were no more enthusiastic about the war than their enemies. During the winter of 1916–17, the supposed enemies fraternized, traded supplies, and even sold war material. In some sectors, a good horse, a gun, etc., acquired a standard value.

During the war, the Russian national debt was increased from 8,810,000,000 rubles to nearly 23,000,000,000, the foreign debt of 4,229,000,000 rubles rising to 11,910,000,000. In 1914, there were about 1,775,000,000 paper rubles in circulation, backed by a fund of some 1,700,000,000 rubles in gold (par 51.46 cents). Mining was stimulated, and the metal money withdrawn from circulation as far as possible. Although gold to a value of about 640,000,000 rubles was added

to deposits abroad, the Russian State Bank still had a reserve of about 1,200,000,000 at the time of the Bolshevik Revolution of November, 1917. This was equal to about a twentieth of the internal debt, while the 309,000,000 rubles still held on deposit abroad was less than one thirty-fifth of the foreign debt. On July 27, 1914, twice in 1915, and twice in 1916, the emission of paper by the State Bank was legally extended, mounting from 300 million to a billion and a half. The issues of 1915 amounted to 2,600,000,000 rubles; of 1916 to 3,379,000,000, and of 1917 to more than 18 billion rubles. In the Petrograd free market, a gold ruble was worth 1.10 paper ones in January, 1915; 1.30 in January, 1916; 1.60 in January, 1917, and about 2 at the time of the March Revolution. By the late summer of 1917, the paper ruble had sunk below a third of its face value, and to an eighth at the time of the Bolshevik *coup* in November.

While the unfavorable balance of payments was mounting skyward, the favorable balance in the commodity trade which had helped to offset it before the war had disappeared, being replaced by a rising unfavorable balance. In 1913 the last full year before the war, exports valued at 1,520,000,000 rubles and imports at 1,374,000,000 left a favorable trade balance of 146,000,000 rubles. The year 1914, with five months of war, showed a decline of exports to 956,000,000 rubles and of imports to 1,098,000, giving an unfavorable trade balance of 142,000,000 rubles. This rose to 737,000,000 rubles in 1915, and to 1,241,000,000 in 1916. The 1916 exports, calculated in rubles, were less than a third of the 1913 figure, but the imports were about 50 per cent greater.

Up to 1917 the Government introduced new taxes, raised railway, telegraph and postal rates, and otherwise increased its revenues, so that the ordinary or non-war budget was not far out of balance; but annual war expenditures increased from 1,656,000,000 rubles in 1914 to 8,815,000,000 in 1915, to 14,553,000,000 in 1916, and about 40,000,000,000 in 1917. Some of this increase was, of course, only the other side of the

depreciation of the ruble, but it represented a state obligation nevertheless.

THE REVOLUTIONARY ECONOMIC PROGRAMS OF 1917

The groups which easily overthrew the Czardom in March, 1917, were united only in their hostility to it. The chances of any new government obviously depended upon the attitude of the peasants, soldiers, city workers, non-Russian nationalists on the borders, and various other groups and sub-groups. Any immediate successor to the Czarist bureaucracy needed to be peculiarly sensitive to public opinion, first, because of a generally weakened social and governmental structure, second, because of the presence of a growing rival in the soldiers' and workers' soviets, more and more organized around the Petrograd Soviet.

Professor Milyukov's Western-type liberals tried to improvise a government out of the fragments they could find and unite. The peasants were seizing the land, the workers were engaging in strikes and demonstrations, the army was disintegrating, and the Empire itself was falling apart under the pressure of nationalistic movements on its western frontiers, aided and abetted by foreign powers. Instead of doing something radical about the food situation in the cities, the land question in the country, and other burning domestic issues, this new Government sank almost without a ripple, trying to continue a war of which most Russians were weary.

Then came Kerensky, himself a moderate or right-wing Social Revolutionary who had worked with the Milyukov group. Through them he inherited the war, with its attendant financial nightmare, from the dead Czardom. A bigger man might not have done much better. As long as revolution continued to be spelled with a small "r," and meant merely a political overturn, Russia was bound to the Allies with hoops of gold. A separate peace would mean a cessation of economic support from this quarter when none was available elsewhere. But the Russian upheaval was rapidly becoming one of those "veritable Revolutions" such as the

French, which, as M. Mathiez once aptly put it, "do not stop at changing political forms and governmental personnel, but transform institutions and displace property." Kerensky's Government had no authority worth mentioning after the failure of his July offensive, and little enough before. The peasants took the land, the workers' soviets got entirely out of control, and the army wilted away.

The left-wing Social Democrats or Bolsheviki and the left wing of Kerensky's own Social Revolutionary Party gradually got control of the soviets. Though these Social Revolutionaries believed in immediate confiscation of the land, without waiting for government sanction, they were anxious to get that sanction. They wanted immediate peace, and had no patience with Kerensky's attempts to gain time. It was their espousal of the irrepressible demands for peace, land, and bread which gave the Bolsheviks the moral force to seize the helm of State early in November. Kerensky could not meet the radical social demands without alienating the bourgeois-liberal elements in his group, and he failed completely in his attempts to get the Western Allies to state specifically their war aims, repudiating all conquest. Both the bourgeois-intellectual (Cadet, Milyukov) party and the conservative wing of the Social Revolutionaries had practically eliminated themselves by their land and war policies, and the Mensheviks or right-wing Social Democrats had gone far enough in support of these policies seriously to weaken their influence.

THE BOLSHEVIK REVOLUTION

There remained the two left-wing socialist groups, for the moment welded by Lenin's famous land-and-peace resolution, passed by the Workers' and Soldiers' Soviet the morning after the *coup* of November 6. They took the reins because nobody else was holding them, and they had a program. The details would be tedious, and they do not matter much. Probably the Bolshevik leaders had little idea that their proposal for a general peace would be entertained by the Allied

Governments, which were immediately stung to fury by the publication of the secret treaties showing how the world was to be divided up in case of victory. Getting favorable responses only from the Central Powers, the new Russian Government signed the armistice which led to the peace of Brest-Litovsk.

Undoubtedly the Bolsheviks did cherish an unfounded hope that war weariness and popular anger at the diplomacy disclosed by the treaties would lead to workers' revolutions. When it became evident to the Germans in power that the Bolsheviks meant to treat with them only until they could be displaced by communists, they stiffened their terms, sent their armies farther into Russia, and vied with the Allies in bolstering up friendly separatist groups. Finnish independence was declared early in December, and German forces aided the moderates in gaining control. Most of Poland was already in the hands of the Germans, and Russia soon lost her Baltic provinces — all of these States becoming independent after the war. The Ukraine fell under German influence. Both of the great alliances winked at the Rumanian occupation of Bessarabia. Rumania, isolated by the Russian withdrawal, was next forced to sign a peace which, among other provisions, gave the Germans use of the railway lines through Bessarabia to the Ukrainian grain fields and the Black Sea ports.

SOCIALISM AND "STATE CAPITALISM" AFTER 1917

In terms of history rather than theory, Bolshevik rule in Russia can be arranged in three periods: (1) The remaining year of the World War — to November, 1918. During this time the nearest and perhaps the most formidable of Russia's foreign menaces was Germany. (2) From the armistice to the collapse of the internal rebellions and the cessation of foreign military interference in 1920. This was also a war period for Russia — one rendered particularly difficult by the blockade and the wearing-out of the economic machine. (3) The peace period, the history of which is practically that

of the New Economic Policies ("NEP"). These new policies were adopted early in 1921. All earlier ones must be viewed against their military background, always bearing in mind the medley of group interests and aspirations which the Government had to placate or put down.

The first concern of the Bolsheviks was, of course, to stay in power. As far as possible, consistent with this, they bent fanatical energy toward guiding the bewildering stream of events along the course of their dream of a new Russia, leading a reconstructed world. Bludgeoned almost every moment by the necessity of doing something without any clearly defined precedents, they compromised innumerable times, dividing between their wishes and the force of events. We should never be able to distinguish between the Bolsheviks as leaders — men faced by practical problems — and the Bolsheviks as Bolsheviks.

Land nationalization, for example, was an avowed ultimate aim of radical socialists. Good Marxians believed that the way should first be paved by an era of capitalism and the formation of large holdings, accompanied by political democracy to prepare the peasants for taking over these units. Facing a situation in which the land had been seized piecemeal, and no government which wished to live would dare interrupt the process, the Bolsheviks had to let theory go and take what they could get. The necessary sanction tied the peasants to the new régime, but the state of war continued, the Government was obliged to continue the old grain requisitions, or even to increase them, which the peasants resented. Moreover, it was impossible to get the implements and other goods which were expected in exchange.

Similarly the Bolsheviks' hand was forced in the matter of nationalizing industry. As in the case of the land, there were grave misgivings as to the ripeness of the Russian economic system for such a move. In the larger cities — particularly Petrograd and Moscow — strikes, non-coöperation, or sabotage on the part of the technical and directive personnel made positive action unavoidable. Most of the

nationalization and sequestration of plants in Russia was carried out locally, by district or provincial groups, and the central Government had no choice but to accept it.[1] There was, however, little hesitation in cases where necessary industries stopped dead. It was not until June 28, 1918, that the decree was finally issued looking forward to systematic nationalization of all heavy industries. The final nationalization decree was issued at the end of 1920, and almost immediately canceled by the introduction of the New Economic Policies. Lenin himself, both in his pre-revolutionary writings and later in the journal *Pravda*, had expressly disclaimed any haste about this. The "control" set up by the Bolsheviks very quickly lost its balance through contests for authority which drove out the remaining ex-proprietors and most of the specialists, leaving the workers supreme and the Government with the vexing task of coördination. "Industrial Democracy" — that is, management by coöperating elective committees — was tried, but it proved utterly unworkable, so recourse was had to centralized authority.

With the banks much the same story was repeated. They exercised vast economic power, which they were naturally inclined to use for obstructing the plans of the Bolsheviks. All private banks were confiscated to meet the emergency — not because the dictators were ready to erect Marxian machinery to fill the economic gap. In defense of their financial policy, the Bolsheviks asserted that they were deliberately wrecking a money system which enabled people to speculate, inherit incomes, or otherwise live without work. Only "socially productive labor" should be rewarded, they said, and deprived those who did not perform it of the franchise.

Opponents scorned this explanation and pointed out that the Bolsheviks were themselves printing money at an unprecedented rate. The retort to this was that the faster the currency depreciated in value, the sooner the old monetary system would be liquidated. This was accompanied by another defense of a practical sort which should probably be put

[1] Figures in *Das Heutige Russland*, I Teil, table on p. 4.

first. According to W. Z. Foster,[1] an American apologist for the communists:

> . . . it (the paper money) is really a form of tax upon the large body of independent producers in non-nationalized industries — chiefly the peasants, who make up 85 per cent of the whole population. These petty bourgeois elements, besides really believing in the institution of money, have an actual need for a medium of exchange. Hence the Government issues them enormous quantities of paper rubles adorned with bright revolutionary mottoes, and gets in exchange large quantities of grain, cattle, and other commodities vitally needed by the army, the city dwellers, etc. The essence of the exchange is that the Government puts in a little printed matter and takes out great masses of substantial products.
>
> Last year this process netted the Soviet Government 250,000,000 gold rubles' worth of commodities. And thus, in fact, the deficits in the national budget have been made up every year since the revolution. . . .

Once out of their military difficulties, the Bolsheviks did not abolish money, however. Instead, a State Bank began attempts to stabilize the currency, and in 1923 established a new monetary system which is about as orthodox economically as could be wished. The new unit, the *tchervonets*, equivalent to ten gold rubles ($5.14), must be backed by a reserve of at least 25 per cent in precious metal (or some foreign currency with a stable relationship to gold). The rest of the backing may be commercial and government paper.[2]

During the years of continued foreign and domestic war, up to 1920, the railways continued to deteriorate. Many of the pre-war locomotives had been twenty, and even thirty years old, before the strain of the World War fell upon them. In the civil wars, they were used by both sides, and often deliberately ruined when in danger of capture. The victories of the Bolsheviks gave them more and more track, at the same time that the locomotives were growing fewer. Cars are simpler mechanically, and a much larger percentage of them were kept in running order. The food situation was

[1] *The Russian Revolution.* Chicago, 1921, pp. 68–69.

[2] For the note issues, 1922–26, see Zimand: *State Capitalism in Russia,* tables on pp. 70 and 71.

somewhat relieved by the recovery of the Ukraine and other fertile regions, but there was want of both transport facilities and the normal trade relations which might have stimulated production. The drought and famine of 1921 were all the more severe in their effects because the land surface under cultivation had been greatly reduced.

Most of the gold supply disappeared. Germany got some 120,000,000 rubles through the Treaty of Brest-Litovsk, the Allies taking it under the terms of the Versailles Treaty. A large fraction of the remainder fell into Admiral Kolchak's hands. What was left must have largely disappeared in payment for absolutely necessary war supplies and other materials. Some, of course, went for propaganda and the expense of various missions abroad.

"State capitalism" is not a particularly happy addition to the terminology of economics. When the danger of forcible overthrow seemed past early in 1921, and the problems of economic reconstruction were given undivided attention, it was decided that capitalism was unavoidable, at least for some time. "We are now trying," wrote Lenin, "to revive trade, private enterprise and capitalism, at the same time gradually and cautiously subjecting them to state regulation just so far as they revive." The military period, down to the end of 1920, may be characterized as an attempt to introduce socialism. The New Economic Program of 1921 recognized capitalism, substituted taxes for requisitions, and soon set to work to create a currency system. This capitalism has consisted of state enterprises, mixed state and private ones, cooperatives (which, in the Russian form were called "semi-socialistic undertakings" by Premier Rykov, Lenin's successor, in 1925), and purely private undertakings, which work under state regulation. While this modified capitalism has often been called "state capitalism," Rykov prefers to call it "state socialism." This expression has come to mean something else in the West, and it contains an element of hope that socialism proper may come out of it — which may be useful for Russian consumption, but we may be pardoned for

preferring the more descriptive term "state capitalism." The main objection to this latter expression would apply to any other: it attempts to describe three or four different kinds of undertakings, some familiar and some unfamiliar to outsiders. It was Lenin's own term, and it will probably hold.

THE SOVIET ECONOMIC STRUCTURE

Historically interesting though they are, we may pass over the attempts of the military period (before the New Economic Policies) in the direction of getting industry and trade entirely in the hands of the State and obviating the necessity of a monetary system. At the end, there was still much non-socialized industry, and private trade went on in spite of the handicaps. The Government itself printed money, which had the disadvantage of instability. The "NEP" organized a State Bank, set about creating a stable currency, restored credit coöperation and the Coöperative Consumers' Bank, and permitted private industrial enterprises employing not over twenty persons. Many smaller establishments were handed back to their former owners. Provision had already been made for letting state property out to foreigners as concessions, for limited periods. These have usually been for short terms of fifteen or twenty years, a considerable drawback from the point of view of prospective investors.

The state monopoly over large-scale industry was relaxed in 1923, three general exceptions being made in the cases of leased properties and concessions to private persons, and management by "mixed companies." These last are operated with both foreign private and Soviet State capital. At the beginning of 1926, there were 117 enterprises in which foreigners were involved, including 86 regular concessions and 31 mixed companies. There were in addition 91 registered foreign firms and 18 authorized foreign joint-stock companies operating under Russian law. Among the largest granted in 1925 were the Lena Goldfields concession (Anglo-American, fifty years), and a manganese concession in the

Georgian Soviet Republic, in connection with which the American firm of W. A. Harriman & Co. agreed to spend at least $4,000,000 for development during twenty years, and pay the Soviet Government royalties on exported ore and peroxide.

Foreign trade was made a state monopoly in 1918. Joint-stock companies were authorized in 1922, in which private capital might participate. The Commissariat for Foreign Trade was then limited to administrative functions, the purely commercial operations passing over to State Trading Organizations and to the above joint-stock companies. The Commissariats for Foreign and Domestic Trade were consolidated in 1925. This new department of commerce was given supervision over trading and customs matters, and also all the institutions and people engaged in foreign trade, including the Gostorg or State Trading Organizations, Commissariats, Syndicates, Trusts, Banks, Credit Institutions, Consumers' and Agricultural Coöperatives, Mixed Companies, and private companies and persons. The monopoly was made much more elastic in operation by the formation of specialized syndicates or stock companies for dealing with different classes of goods.

Every suggestion to modify state control itself over foreign trade, as distinguished from mere methods of application, has been repelled. The monopoly is perhaps less important in itself than as a check upon other parts of the economic system. For example, the State Bank always quotes the *tchervonets* as on a gold par, but it has often been worth less than that in the open market. The control over exports and imports is one means of preventing dangerous inflation. This was freely used during the anxious year of 1926, and doubtless with some effect, though the good crops of that season are usually given the main credit for the improved monetary situation at the close, and the issues were also curtailed. The minimum legal cover for the note issue in specie and foreign currency is 25 per cent. The actual cover dropped from 33.7 to 30.9 per cent between December 1, 1925 and May 1, 1926, and be-

low 28 per cent by October, rising later as the grain crop began to move out.

Already in a bad way in 1917, foreign trade practically collapsed during the period of isolation which followed. Germany was the first of the great powers formally to resume trade with Russia (1922), most of the others following suit during the next two years. Even in the United States, where recognition has not been accorded (1927), the great soviet trading organizations do a thriving business, and both they and the Russian State Bank have connections with American financial institutions of the first rank. In millions of rubles, the Russian exports during the fiscal year 1922–23 were only 210, as compared with 1520 in 1913; and the imports 187, as compared with 1374 in 1913. By 1924–25 the exports had risen to 567 and the imports to 718. Viewed merely in terms of value, the exports appeared to be 37.3 per cent, and the imports 52.2 per cent, of the pre-war volume. Making due allowance for changed price levels, the showing would not be nearly so good — the trade over the European frontiers for 1924–25 has been calculated as: imports 29.2 per cent and exports 22.5 per cent of the 1913 amounts.[1]

Since 1922 many of the heavier nationalized industrial plants have been grouped into "trusts" for better management. In 1923 these went over frankly to the "commercial basis" of making profits. They have their own finances, with a basic capital which cannot be alienated except by permission of the Supreme Council of National Economy, which appoints the directors annually. All trusts are members of the Bourse, and their transactions are registered. Selling prices can be fixed by the above Council, the Council of Labor, and Defense and the Commissariat of Trade, in case of necessity, but the trust is guaranteed against losses occurring because of state interference. Lighter industries which are largely dependent upon the State are syndicated, the syndicates also controlled by the Supreme Council of National Economy. The gross value of Russia's industrial

[1] Zimand, *op. cit.*, pp. 23–24.

output in 1925–26 was estimated at 6.7 billion gold rubles, as compared with 4.3 in 1924–25 and 7 in 1913; but these gold-price figures are too optimistic, and would be considerably scaled down by price-level corrections or checking with actual volume. The cotton textile industry was back to about 90 per cent of the pre-war level by 1926, oil about the same, coal 85 per cent or more, and iron and steel around 70 per cent. There were over 45,000 miles of railway in operation, or more than in the same area in 1913, but the freight traffic was less than two thirds of the pre-war amount. Industrial recovery is overstated even by the most rigidly accurate figures on output. The system of trusts has led to a concentration on the better plants, many of which have been worked constantly on a plan of three eight-hour shifts per day. Quite aside from any question of the excessive wear upon them and their growing obsolescence, expansion had reached a point by 1926 where soviet authorities themselves admitted that new capital was absolutely necessary to carry it much further.

At the close of 1923 the Central Statistical Department estimated that private trade had over 90 per cent of the domestic field. This was alarming to sincere communists, and nobody could be blind to some startling abuses which had grown up in connection with the "Nepmen" or private traders. Lenin's long illness, and the uncertainties as to what would follow his imminent death, led to a policy of marking time. The growing inequalities of condition and the increased use of luxuries by the new-rich were especially distasteful to the more radical socialists. These charged the abuses to a relaxation of principles, and their enemies laid them to sovietism. Lenin's death drew the factions together and strengthened communistic sentiment. The spring of 1924 saw a considerable reaction against the "Nepmen." A commission was set up to regulate domestic trade, especially the relationships between the private capitalists and the public and coöperative enterprises. The main idea was to "suppress all attempts by private capital . . . to injure the trade and industry of the State or the coöperative move-

ment. . . ." Private traders had been securing better credit and payment facilities, and it was also charged that they were getting their pick of the goods. For the purpose of propaganda, it was assumed that these advantages constituted a plot against the soviet system, though it was evident that the private trader was favored because he was a better customer, his methods giving him a more flexible organization and a quicker turnover.

About a quarter of a million private shops went out of business as a result of the reaction against them in 1924. This move took the dual form of relaxing government control over the coöperatives and imposing new regulations upon private trade. Beginning with the spring of 1918, a series of measures had been passed to the end of incorporating the coöperative system into the soviet economy. On January 15, 1920, the Supreme Council in Paris lifted the ban on trade with the Russian coöperatives, at the same time refusing any recognition of the Soviet Government. The Bolsheviks naturally regarded this as an attempt to use the coöperatives against them, and responded by declaring that from February 1 these bodies would be directed by the People's Commissaries. When the military and diplomatic crisis had passed, one of the first effects of the New Economic Policies of the following year was a partial relaxation of control over the coöperatives, but it remained excessive. There are four main groups in the state system. The Centrosoyuz (Central Union of Consumers' Coöperatives) did about $30,000,000 worth of business in foreign markets in 1925, the Agricultural Union (Selskosoyuz) over $24,000,000. Besides these, the Union of Ukrainian Cooperatives[1] accounted for nearly $9,000,000 worth of foreign business and the flax coöperatives exported to the extent of about $4,000,000. The Centrosoyuz included over 26,000 societies, with 10,000,000 members, at the end of that year, and the agricultural group consisted of 31,000 societies, uniting 6,500,000 peasant landholdings, or more than a quarter

[1] Russia has been a "Union of Soviet Socialist Republics" since 1923. This is the way the problem of nationalities was solved.

of the whole. The 1924 program included the abolition of state supervision and compulsory membership, and the extension of special credit and price facilities.

This policy showed up the weakest spot in the soviet economy, and was rather precipitately changed early in 1925. To finance a semi-official system of trade at the expense of purely private enterprise called for more capital than the Government had at its command. The State has been spending over $100,000,000 a year to develop industry, and if this does not come back in the form of profits it puts a strain upon the currency system and the budget, which are tied up inextricably. When inflation begins, both imports and industrial expenditures have to be curtailed. If it gets serious, the note issues may have to be sharply restricted. The combined effects of these measures spread over the whole economic system, even injuring domestic trade and hence the market for manufactured wares. The Government appears to have found out approximately what the limits are to state enterprise. It is claimed that more could be undertaken if there was more capital; but it will occur to the economist that the problem of organization would also be more intricate in that case. For anything we know, the complications might increase faster than the means of solving them. Awkward and wasteful as a trial-and-error system of private enterprise is, it acts as a semi-automatic governor of business and reduces the intricacy of the vast problem of organization to something like the human capacity for managing it. Some acknowledgment of this sad fact appeared in the revised Russian attitude toward private trade and industry in 1925. On April 1 of that year, it was announced that private capitalists would henceforth enjoy the same rights and privileges as the official "trusts" and semi-official coöperative organizations. Private property was permitted, and it was stated that the State would allow the establishment of private banks. A final principle of communism was surrendered a few weeks later when farmers were given permission to employ hired labor throughout the year, exceptions also being

made in their case to eight-hour day and child-labor regulations. The prescribed system of sickness insurance was of the orthodox type used in many capitalist countries — it must be provided by the employer. The system of compulsory labor exchanges was converted into one of voluntary employment bureaus.

Is the soviet system socialism, or capitalism? Lenin called it "state capitalism" when it was far more socialistic than now. His successor, Rykov, called it "state socialism" after four years of temporizing with actual capitalism. Certainly the State interferes to an unusual degree with what is, nevertheless, a price economy. Even in the state industries, profits are the basis of business operations. These prices and profits are calculated in terms of gold, not labor. Private capitalism is tolerated. Only the large-scale industries remain generally in the hands of the State, and these not exclusively. Even after the reaction of 1924, a quarter of the domestic trade remained in private hands. Taxes are collected from production, real property, incomes, customs and excise charges on many articles, including alcoholic drinks, tobacco, sugar, matches, tea, coffee, and textiles.

Agriculture might be taken as something of a test in a country where more than four fifths of the population is so engaged. The peasant's hold upon the land he tills is not called a "title" to "property," but it is fairly secure possession, and the plots may be strictly individual if the village so elects, as it usually does. This peasant may hire help the year round, for wages calculated in terms of gold. He pays taxes according to fixed schedules, disposes of the rest of his produce in the market, and hoards or spends the money which he gets in return, as he pleases — or uses it to carry on business for profit. This may be "communism"; the term for it does not greatly matter. Agricultural production fell off during the war, as it did in the Balkans, and for much the same reasons. Machinery and fertilizers were wanting, many men were mobilized, and business was generally dislocated. The decline continued during the period of internal strife,

blockade, and threatened invasion. Then production rose again. The grain acreage for 1925 was about a fifth below the 1909–13 average (within present frontiers), and the total crop was about 2.6 billion bushels in 1925, as compared with 3.2 before the war, or roughly four fifths of the pre-war amount. Before the war, Russia exported grain out of her misery rather than her plenty, and she still does. The peasant gets what the state monopoly fixes on the part exported, and pays what the same monopoly likewise arranges for any imported product he may choose to buy.

All these things are too near to us in time to pass any reliable historical judgment upon them. History may pretend to deal with all that has transpired, but in practice it has to confine itself to what is significant. Only the passage of time can tell us for certain which elements in a situation are transient and which permanent, by weeding out the former and leaving the latter. Every set of conditions is a mixture of new and old factors — mostly old. The only prophetic function which history can have is to aid in recognizing the old factors and calculating their probable strength in the presence of the new ones, which are always an unknown quantity. There are some certainties in the realm where politics and economics overlap. One of these, recognized by the Soviet Government, is that the time must come when it will adjust the claims of other States and their citizens against it. Another, which these creditors understand perfectly well, is that the settlement can never be at face value, including accumulated interest. Negotiations went on in 1925 and 1926 between Russia and France concerning a pre-war debt of some five billion dollars to investors, in the latter country, but no fraction of it could be agreed upon as payable. Counting public and private loans, interest, and the claims for confiscated or destroyed property, the American bill to Russia was nearly three quarters of a billion dollars in 1926. Russia's creditors insist that she must acknowledge the huge foreign claims "in principle." In practice, this usually means that the debtor nation exchanges the acknow-

ledgment of a large sum "in principle" for a quiet agreement to accept a much smaller one.

SUGGESTIONS FOR FURTHER READING

Blanc, Elsie Terry: *Coöperative Movement in Russia.*

*Bowman, Isaiah: *The New World*, pp. 328–408; 450–61; 470–76.

Brailsford, H. N.: *The Russian Workers' Republic.*

Buchan, John (ed.): *The Baltic and Caucasian States.* "Nations of Today" series, 1923. (Sec. B, see Contents.)

Cummings, C. K., and Pettit, W. W.: *Russian-American Relations, 1917–1920.* Documents and Papers.

**Das Heutige Russland, 1917–1922.* (Collection of monographs, bound in one volume.) (Part I on economic life, pp. 1–158.)

Day, Clive: *A History of Commerce*, chap. XLIV.

Dennis, A. L. P.: *The Foreign Policies of Soviet Russia.*

*Durand, E. D.: "Agriculture in Eastern Europe," in *Quarterly Journal of Economics*, February, 1922, pp. 169–96.

Engelbrecht, T. H.: *Landwirtschaftlicher Atlas des Russischen Reiches in Europa und Asien.* (Thirty maps, Berlin, 1916.)

*Goldstein, J. M.: *Russia, Her Economic Past and Future.*

Hard, W.: *Raymond Robins' Own Story.*

*Heller, A. A.: *The Industrial Revival in Soviet Russia.* Especially pp. 136–223.

*Hindus, M. G.: *The Russian Peasant and the Revolution.*

Hirsch, Dr. A.: *U. S. S. R.*

Hourwich, J.: *The Economics of the Russian Village*, pp. 40–137; 179–202; 291–307.

*International Labour Office. *Industrial Life in Soviet Russia* (1923).

—— *The Coöperative Movement in Soviet Russia* (1925).

Katsenelenbaum, S. S.: *Russian Currency and Banking.*

Korff, S. A.: *Autocracy and Revolution in Russia.*

Kovalevsky, M.: *La régime économique de la Russie.* Especially pp. 169–290.

Kovalevsky, W. (ed.): *La Russie à la fin du XIX^e Siècle.*

Kulischer, J.: *Russische Wirtschaftsgeschichte.*

Leites, K.: *Recent Economic Developments in Russia.*

Lenin, N., Trotsky, L.: *The Proletarian Revolution in Russia.*

Lenin, N., *et al.*: *The New Policies of Soviet Russia.*

*Mavor, J.: *An Economic History of Russia*, vol. I, pp. 375–427; vol. II, pp. 251–357.

*Miller, Margaret S.: *The Economic Development of Russia, 1905–14.*

Nansen, Dr. Fridtjof: *Russia and Peace.*

Ogg, F. A.: *Economic Development of Modern Europe*, chap. XV.

Olgin, M.: *The Soul of the Russian Revolution.* Especially pp. 373–411.

Pasvolsky, Leo: *The Economics of Communism.*

*Pasvolsky, Leo, and Moulton, H. G.: *Russian Debts and Russian Reconstruction.*

Ross, E. A. *The Russian Soviet Republic.*
*Schkaff, Eugène: *La Question Agraire en Russie.*
Segal, L., and Santalov, A. A. (eds.): *Commercial Yearbook of the Soviet Union.*
Simkhovitch, V.: *Die Feldgemeinschaft in Russland.*
—— * "Agrarian Movement in Russia," in *Yale Review*, May, 1907.
Snodgrass, J. H., *et al.: Russia, a Handbook of Commercial and Industrial Conditions.* Special Consular Reports, no. 61, Washington, D.C., 1913, pp. 67–122; 140–49.
*Tugan-Baranovsky, M.: *Geschichte der Russischen Fabrik*, part II.
United States Department of Agriculture. *Russian Agriculture.* Weekly Bulletin of Agricultural Economics, October 31, 1923.
*Vinogradoff, P.: Article on Russia, *Encyclopædia Britannica*, 12th ed., vol. XXXII, pp. 313–40.
*Wallace, D. M.: *Russia*, 1905 ed., pp. 429–509 (rural life); 571–91 (urban conditions).
Witte, Count S. I.: *Memoirs.*
Zenzinov, V.: "The Bolsheviks and the Peasant," in *Foreign Affairs*, October, 1925.
*Zimand, Savel: *State Capitalism in Russia.* Preliminary ed., 1926.

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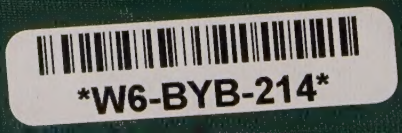
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